Manual de Serviço

TELEVISORES LCD

MODELOS: LC3251FDA / LC4051FDA / LC4651FDA / LC551FDA

ESPECIFICAÇÕES

Tensão de rede: (Todos os modelos)---------- 110 - 220V ~ (60 Hz) automático.

Consumo---------- (Todos modelos)---------- Stand by ---------- < 1 Watt
LC3251FDA---------- Médio ---------- 70 Watts
LC4051FDA---------- Médio ---------- 80 Watts
LC4651FDA---------- Médio ---------- 110 Watts
LC5551FDA---------- Médio ---------- 120 Watts

Potência de áudio (Todos os modelos):---------- 5 W + 5 W (RMS) / 8 ohm

Resoluçao---------- (Todos modelos)---------- 1920 x 1080

Sintonizador Analógico / Digital (Todos os modelos)
Sintonizador:---------- VA1G5BF8012 - SHARP (NE:362024)
Impedância de entrada de antena:---------- 75 ohm-tipo desbalanceada para VHF/UHF/SBTVD - CABO
Sistema de sintonia---------- F.S. (Frequency synthetizer)-PLL
Sistema de televisão:---------- Padrão M-525 linhas
Canais de recepção:---------- Faixa I- Canais 2 a B --------- OFF AIR-55,25 MHz a 83,25 MHz-VHF 2 a 6
--------- CABO-73,25 MHz a 127,25 MHz
Faixa II- Canais C a LL --------- OFF AIR-175,25 MHz a 211,25 MHz-VHF 7 a 13
--------- CABO-133,25 MHz a 367,25 MHz
Faixa III- Canais MM a 69 --------- OFF AIR-471,25 MHz a 801,25 MHz-UHF 14 a 69
--------- CABO-373,25 MHz a 463,25 MHz
Freqüências intermediárias:----------Portadora de vídeo---------- 45,75 MHz (PALM)
Portadora de som---------- 41,25 MHz/ 4,5MHz (PALN)
Portadora de croma---------- 42,17 MHz (NTSC)
Freqüências subportadoras de croma:---------- 3,575611MHz ----------
3,582056 MHz ----------
3,579545 MHz ----------
Modo COFDM: ---------- 2K
Constelação: ---------- QPSK, DQPSK, 16QAM, 64QAM
Taxa interna do código: ---------- 1/2, 2/3, 3/4, 5/6, 7/8
Intervalo de guarda: ---------- 1/4, 1/8, 1/1, 1/32
Sensibilidade: ---------- -76dBm @8K, 64QAM, 7/8, 1/8

Painel LC3251FDA
Código / NE: ---------- LC320EUD-SCA1-LG / NE: 382.832
Ângulo de visão: ---------- 178º
Tempo de Resposta: ---------- 6 ms
Taxa de Contraste: ---------- 1300:1
Brilho: ---------- 450cd/m²

Painel LC4051FDA
Código / NE: ---------- LTA400HF16 SAMSUNG / NE: 383.127
Ângulo de visão: ---------- 178º
Tempo de Resposta: ---------- 6 ms
Taxa de Contraste: ---------- TBD
Brilho: ---------- 450cd/m²

Painel LC4651FDA
Código / NE: ---------- LTA460HJ09 SAMSUNG / NE: 398.344
Ângulo de visão: ---------- 178º
Tempo de Resposta: ---------- 6 ms
Taxa de Contraste: ---------- 5000:1
Brilho: ---------- 450cd/m²

Painel LC5551FDA
Código / NE: ---------- LTA550HJ05 SAMSUNG / NE: 405194
Ângulo de visão: ---------- 178º
Tempo de Resposta: ---------- 6 ms
Taxa de Contraste: ---------- 5000:1
Brilho: ---------- 450cd/m²

Controle Remoto: (Todos os modelos)---------- CT-6390 / NE: 383859

HDMI : ---------- Version 1.3 (3 Inputs) - CEC function - Link

USB 2.0 : ---------- PVR e Arquivos multimídia---------- Fotos: JPG,JPE,GIF,PNG,BMP
---------- Música: MP3
---------- Vídeo: MPG,MPEG
---------- Texto: TXT

NE: 756.514

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Informações / Instruções de ajuste

CHECAGEM

VERIFICAÇÃO DA VERSÃO DO SOFTWARE (Menu de Serviço).
No Menu Imagem, digite "2008". Esta opção abre o Menu de Fábrica do aparelho.

INFORMAÇÕES ÚTEIS

DESBLOQUEIO DO APARELHO.
Caso o cliente esquecer o código de bloqueio das entradas/classificação indicativa, entre com o código “1980” para desbloquear.

TECLAS DE OPERAÇÃO DO MENU DE SERVIÇO
Utilize a tecla "Enter" para acessar os menus de serviço, tecla "Menu" para voltar 1 menu anterior e teclas para selecionar ou ajustar.

ATUALIZAÇÃO DE SOFTWARE

GRAVAÇÃO DO SOFTWARE (Via USB). Tempo aproximado = 3 minutos
Deverá ser gravado o software, a ser instalado, na raiz (Não colocá-lo em pastas ou subpastas) de um dispositivo USB e renomeado para "merge.bin".

Pode-se utilizar o Menu do usuário para atualizá-lo:
Abrir o Menu e mover até o Menu "Config.", no submenu escolher a opção "Atualização de Sowftware(USB)" e confirmar na opção "Sim".

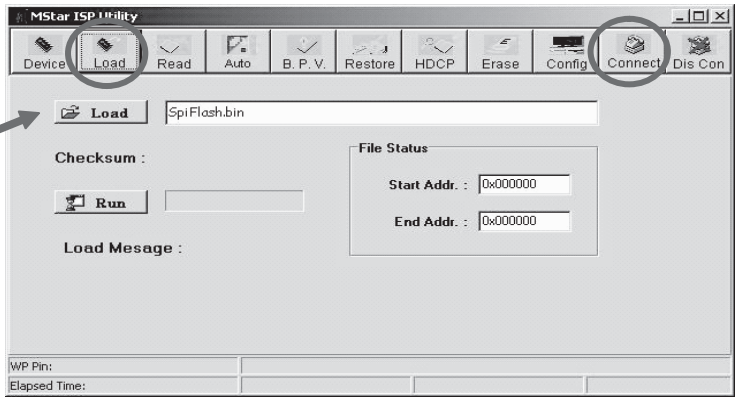
Pode-se utilizar o Menu do Fábrica para atualizá-lo:
No Menu de imagem didigtar "2008" para abrir Menu de Fábrica e selecionar a opção "Atualização de Software (USB) e confirmar na opção "209".

Para ambas as atualizações, é necessário esperar a atualização completa do software.
É recomendável que se faça o "Factory Reset" após a atualização de software.

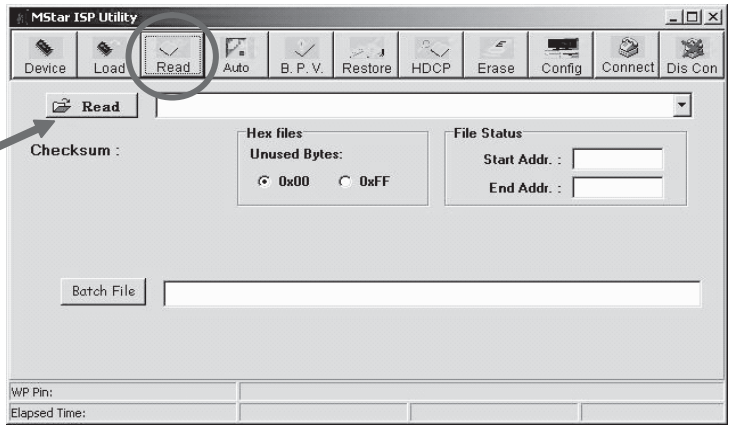
GRAVAÇÃO DO SOFTWARE (Via Computador). Tempo aproximado = 15 minutos
Utilizar um computador, com porta USB e Software ISP tool instalado (versões antigas do programa podem não funcionar para atualização do software, utilizar neste caso a versão V4.4.5.9 ou uma mais recente).
O computador é ligado via porta USB a uma interface, que é utilizada para atualização em todas as linhas anteriores (LCxx45W, LCxx46DA).
Conectar a saída da interface de comunicação ao conector XS504 na PCI principal. (verificar se as informações Tx, Rx, GND e 5V da placa JIG e da placa Principal estão corretamente ligadas).

1º Passo: Faça a conexão entre o computador, o Jig e a televisão (o aparelho deve estar ligado a tomada).
2º Passo: Abra o programa "ISP_tool" e clique no ícone "Connect", penúltimo ícone na barra superior do Menu, ver figura 1 a seguir.
(Deve aparecer uma caixa de diálogo informando o "device type" encontrado, caso informe alguma mensagem de "Device not found" - Dispositivo não encontrado - verifique novamente as conexões.

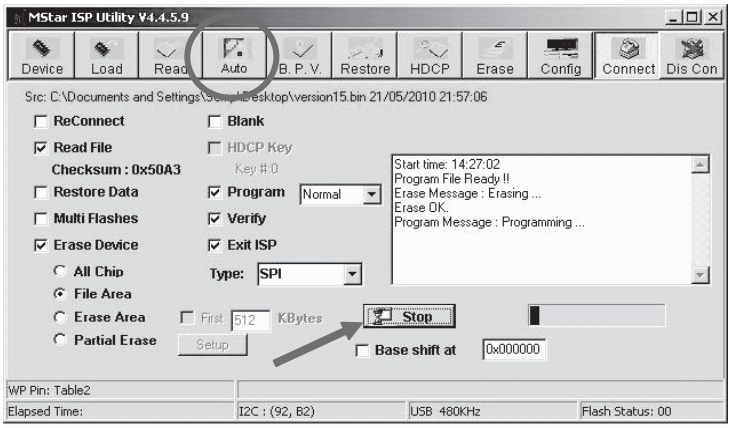
3º Passo: Clique no ícone "Load" da barra de menu superior, segundo ícone, e depois clique no ícone "Load" para localizar o arquivo (extensão ".bin" no computador).



4º Passo: Clique no ícone "Read" da barra de menu superior, terceiro ícone, e depois clique no ícone "Read" para localizar o mesmo arquivo carregado no 3º passo.



5º Passo: Clique no ícone "Auto" da barra de menu superior, quarto ícone, e inicie a instalação no ícone "Start".



AJUSTE DO GANHO DE VIDEO (após a troca do painél LCD ou Atualização de Software)

AJUSTE DE GANHO ADC (OFFSET) DE VÍDEO COMPONENTE E PC-RGB

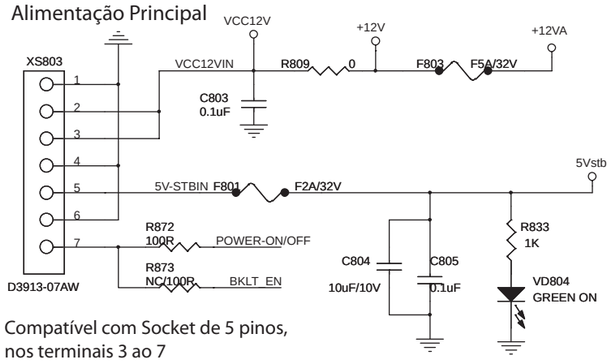
Conecte um sinal de barras coloridas ou escala de cinza na entrada a ser ajustada, Componente (YPbPr) ou PC-RGB.
Selecione a entrada a ser ajustada (Componente ou PC) e depois entre no Modo de Serviço.
Selecione o menu de ajuste "ADC ADJUST".
No menu "ADC ADJUST", selecione o item "AUTO ADC" e inicie o auto ajuste através das teclas direcionais "**<**" ou "**>**".
Resultado "Erro" ou "Success" deve aparecer na tela, caso permanecer "Erro", tentar ajuste novamente.

Obs: Na entrada Componente (YPbPr) é necessário ajustar em HD (720 ou 1080) e SD (480).
Efetuando Factory Reset do Menu de serviço, os dados do ADC ajuste são perdidos.

ESQUEMAS ELÉTRICOS

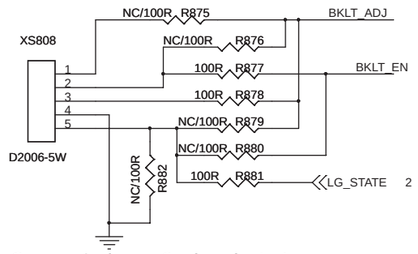
PCI Principal - Sistema de Alimentação

Alimentação Principal



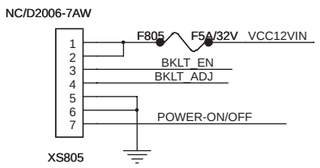
Compatível com Socket de 5 pinos,
nos terminais 3 ao 7

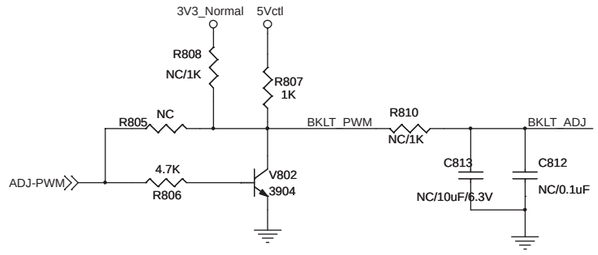
Plug de ajuste do Backlight

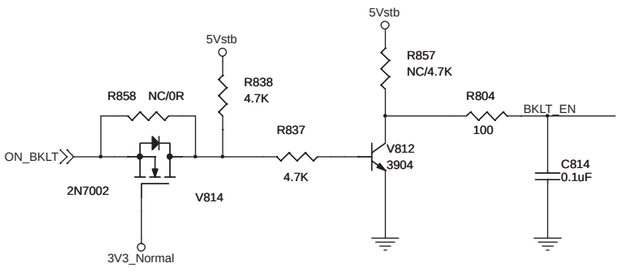


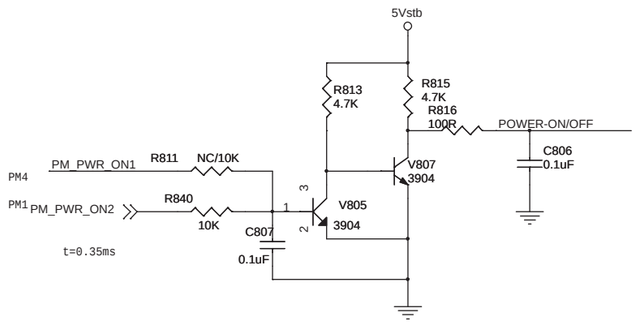
Compatível com Socket de 4 pinos,
não conectar pino 1

Conector - Alimetação 12V

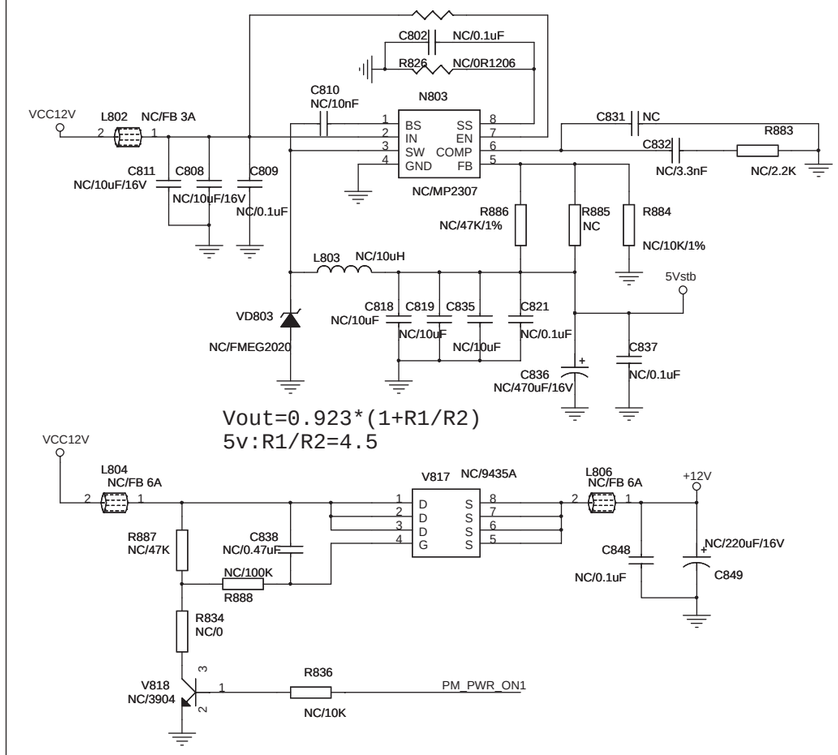




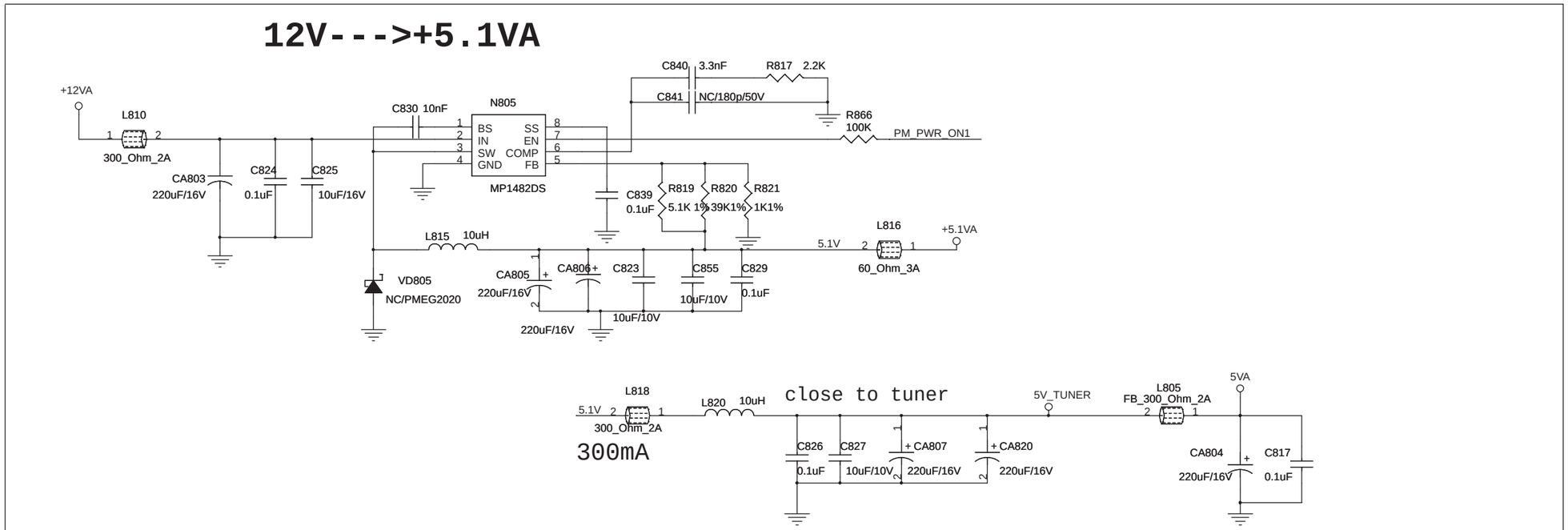




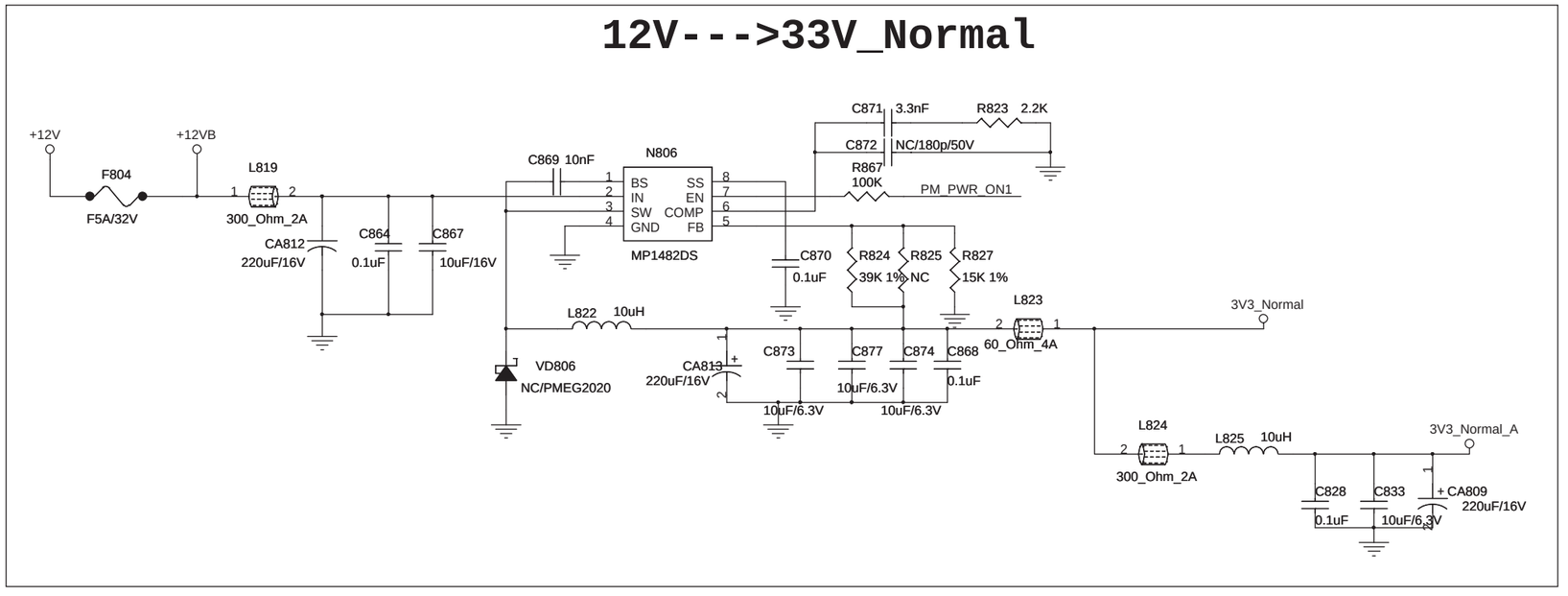
Fonte de Alimentação 12V



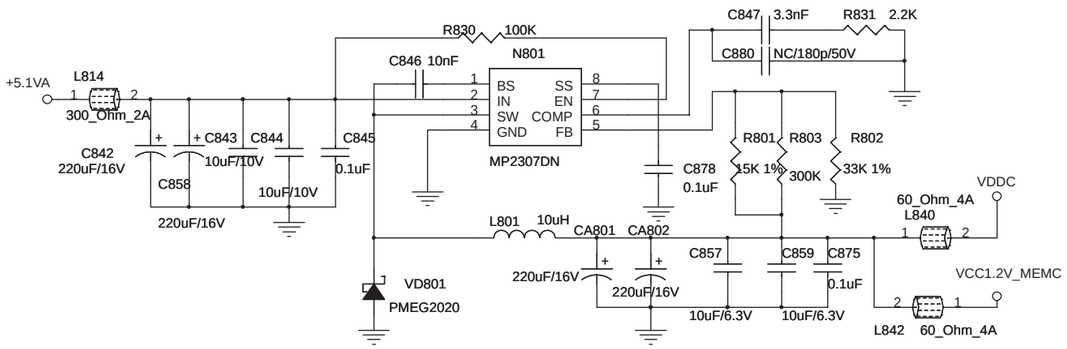
PCI Principal - Sistema de Alimentação



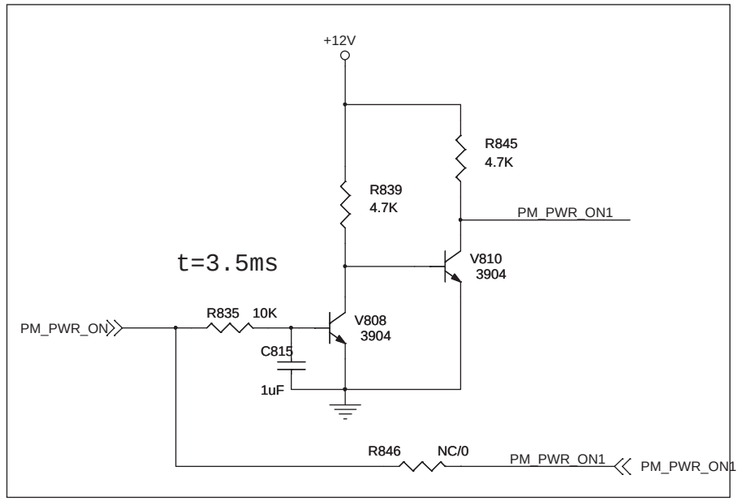
+3.3V NORMAL POWER



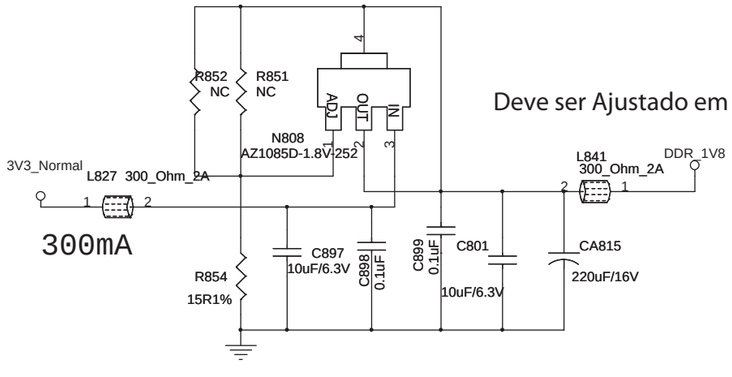
Vcc 1.26V for MSD209 Core power



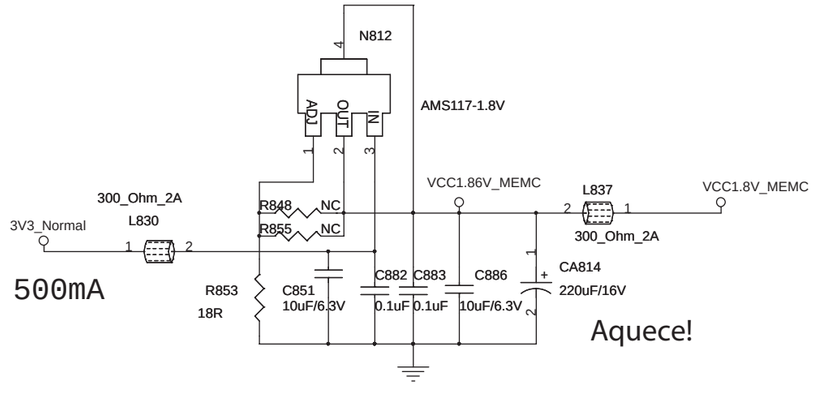
MP1482
Vout=0.923*(1+R1/R2)
1.26v:R1/R2=0.365



DDR2 Power

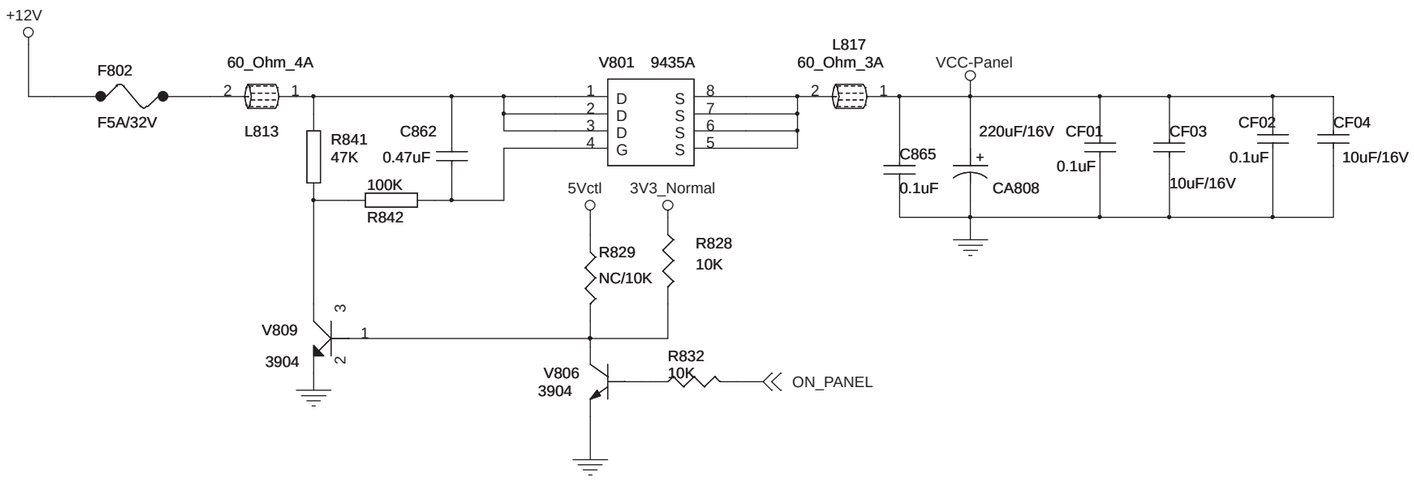


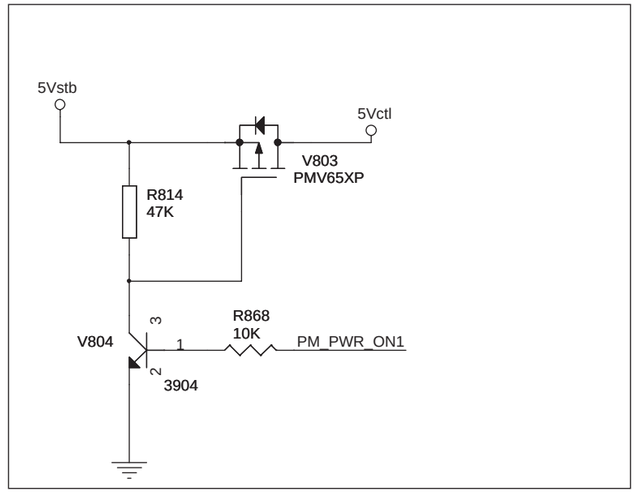
Vcc 1.8V for MEMC DDR2 power

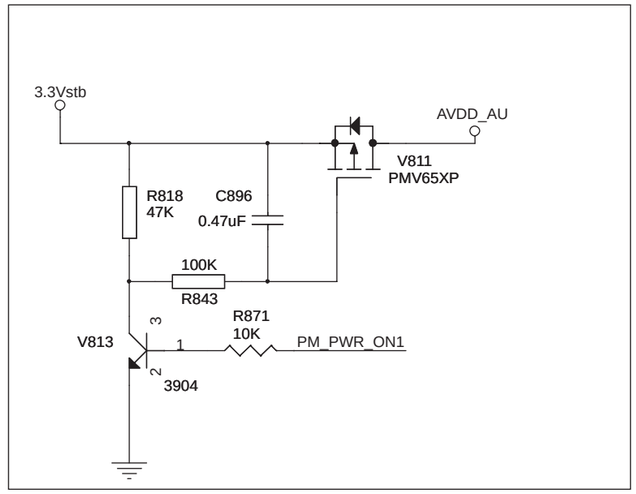


PCI Principal - Sistema de Alimentação

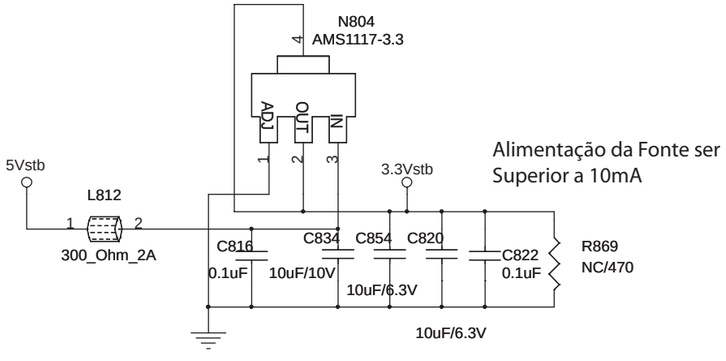
PANEL POWER

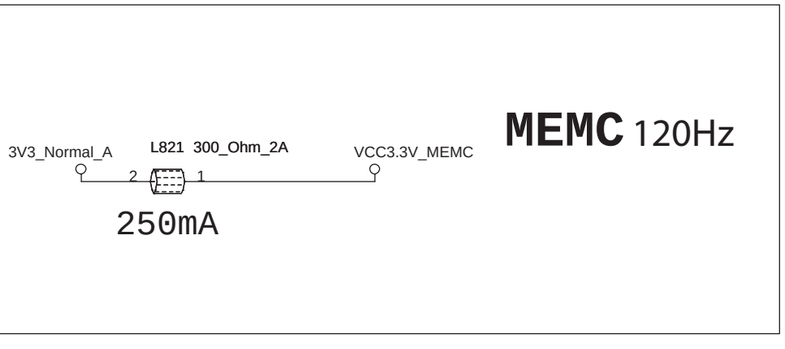






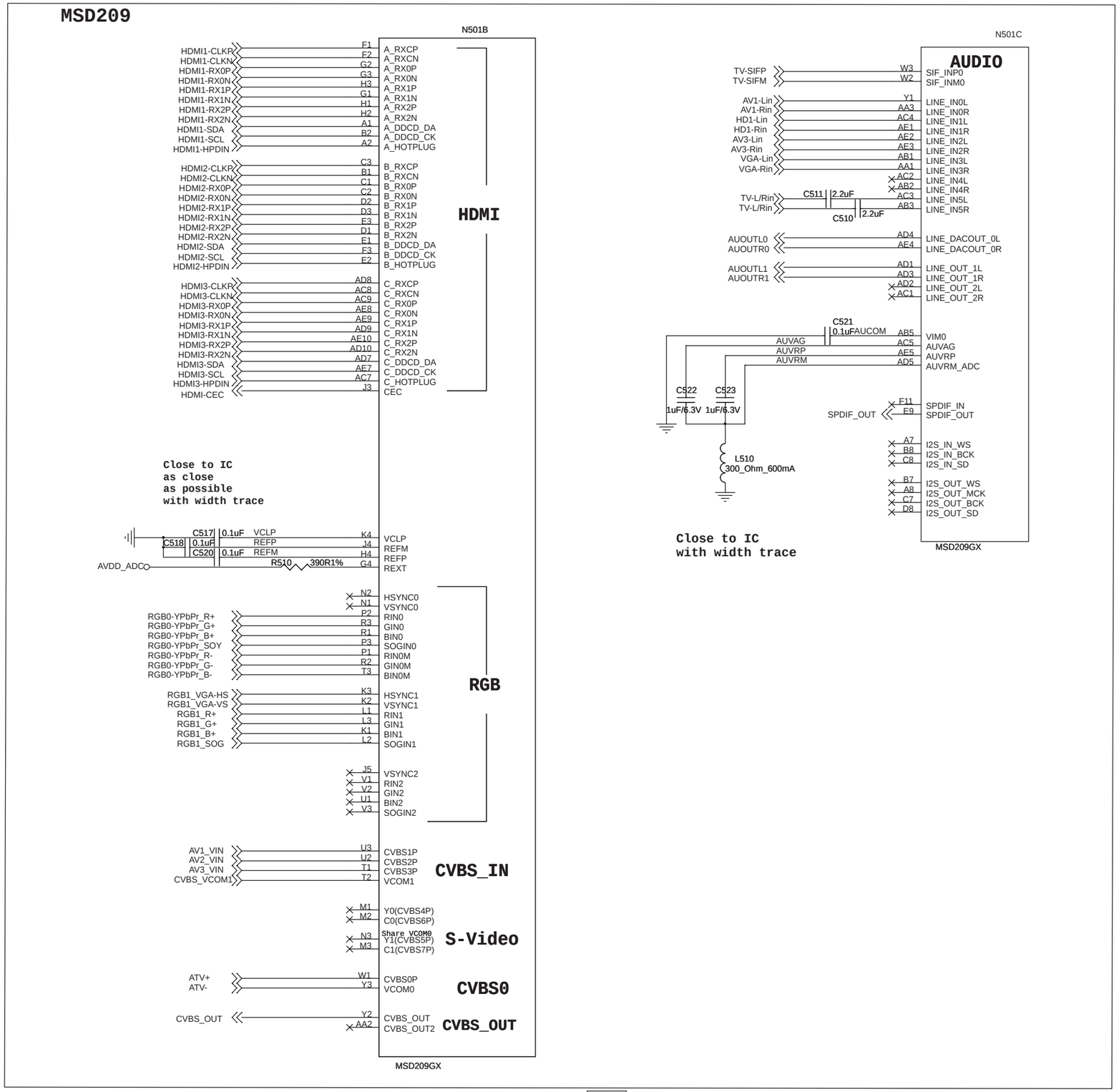
+3.3V STANDBY POWER



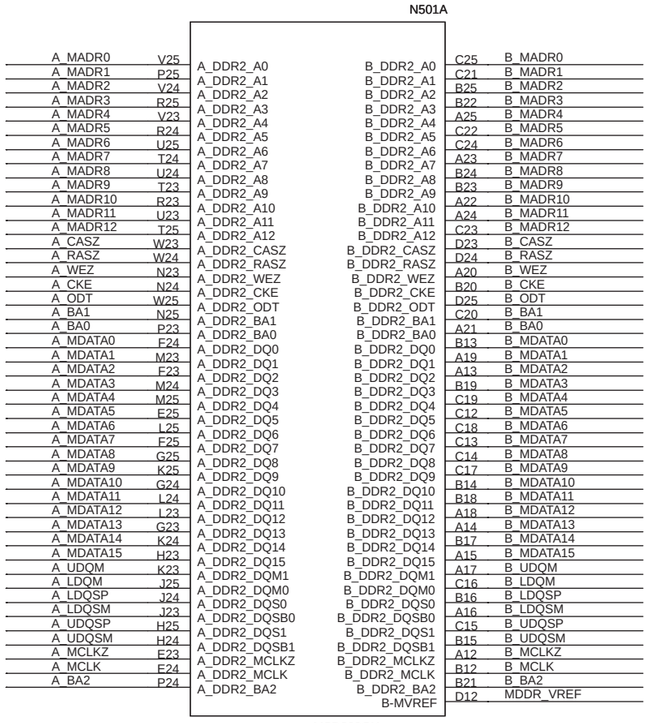


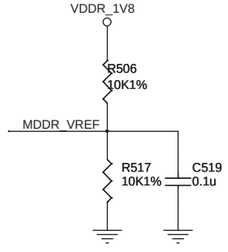
MEMC 120Hz

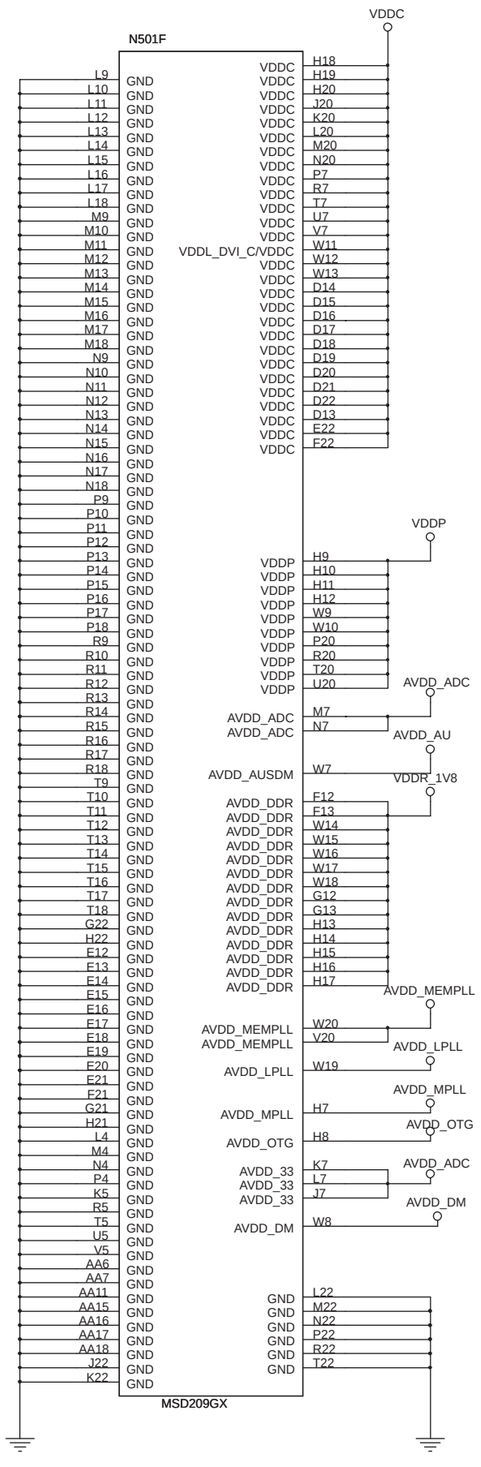
PCI Principal - Circuito Integrado MSD209

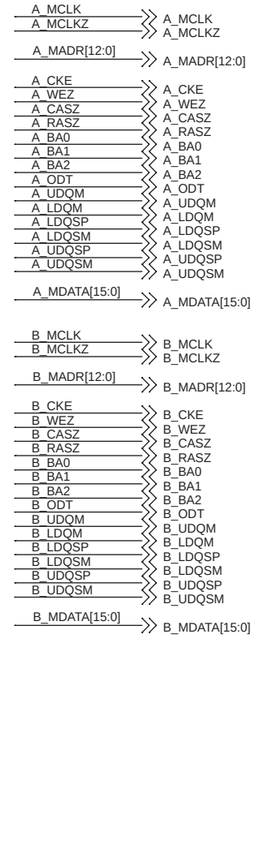


MSD209 cont.

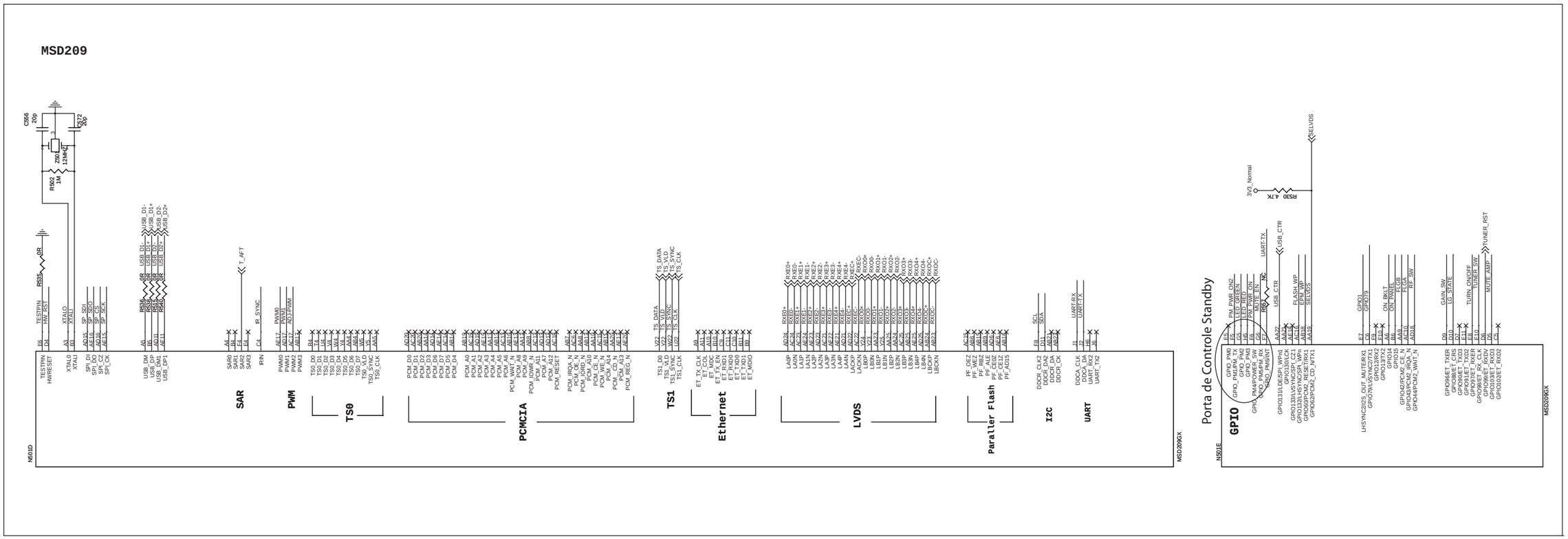

N501A
A_MADR0 V25 A_DDR2_A0 B_DDR2_A0 C25 B_MADR0
A_MADR1 P25 A_DDR2_A1 B_DDR2_A1 C21 B_MADR1
A_MADR2 V24 A_DDR2_A2 B_DDR2_A2 B25 B_MADR2
A_MADR3 R25 A_DDR2_A3 B_DDR2_A3 B22 B_MADR3
A_MADR4 V23 A_DDR2_A4 B_DDR2_A4 A25 B_MADR4
A_MADR5 R24 A_DDR2_A5 B_DDR2_A5 C22 B_MADR5
A_MADR6 U25 A_DDR2_A6 B_DDR2_A6 C24 B_MADR6
A_MADR7 T24 A_DDR2_A7 B_DDR2_A7 A23 B_MADR7
A_MADR8 U24 A_DDR2_A8 B_DDR2_A8 B24 B_MADR8
A_MADR9 T23 A_DDR2_A9 B_DDR2_A9 B23 B_MADR9
A_MADR10 R23 A_DDR2_A10 B_DDR2_A10 A22 B_MADR10
A_MADR11 U23 A_DDR2_A11 B_DDR2_A11 A24 B_MADR11
A_MADR12 T25 A_DDR2_A12 B_DDR2_A12 C23 B_MADR12
A_CASZ W23 A_DDR2_CASZ B_DDR2_CASZ D23 B_CASZ
A_RASZ W24 A_DDR2_RASZ B_DDR2_RASZ D24 B_RASZ
A_WEZ N23 A_DDR2_WEZ B_DDR2_WEZ A20 B_WEZ
A_CKE N24 A_DDR2_CKE B_DDR2_CKE B20 B_CKE
A_ODT W25 A_DDR2_ODT B_DDR2_ODT D25 B_ODT
A_BA1 N25 A_DDR2_BA1 B_DDR2_BA1 C20 B_BA1
A_BA0 P23 A_DDR2_BA0 B_DDR2_BA0 A21 B_BA0
A_MDATA0 F24 A_DDR2_DQ0 B_DDR2_DQ0 B13 B_MDATA0
A_MDATA1 M23 A_DDR2_DQ1 B_DDR2_DQ1 A19 B_MDATA1
A_MDATA2 F23 A_DDR2_DQ2 B_DDR2_DQ2 A13 B_MDATA2
A_MDATA3 M24 A_DDR2_DQ3 B_DDR2_DQ3 B19 B_MDATA3
A_MDATA4 M25 A_DDR2_DQ4 B_DDR2_DQ4 C19 B_MDATA4
A_MDATA5 E25 A_DDR2_DQ5 B_DDR2_DQ5 C12 B_MDATA5
A_MDATA6 L25 A_DDR2_DQ6 B_DDR2_DQ6 C18 B_MDATA6
A_MDATA7 F25 A_DDR2_DQ7 B_DDR2_DQ7 C13 B_MDATA7
A_MDATA8 G25 A_DDR2_DQ8 B_DDR2_DQ8 C14 B_MDATA8
A_MDATA9 K25 A_DDR2_DQ9 B_DDR2_DQ9 C17 B_MDATA9
A_MDATA10 G24 A_DDR2_DQ10 B_DDR2_DQ10 B14 B_MDATA10
A_MDATA11 L24 A_DDR2_DQ11 B_DDR2_DQ11 B18 B_MDATA11
A_MDATA12 L23 A_DDR2_DQ12 B_DDR2_DQ12 A18 B_MDATA12
A_MDATA13 G23 A_DDR2_DQ13 B_DDR2_DQ13 A14 B_MDATA13
A_MDATA14 K24 A_DDR2_DQ14 B_DDR2_DQ14 B17 B_MDATA14
A_MDATA15 H23 A_DDR2_DQ15 B_DDR2_DQ15 A15 B_MDATA15
A_UDQM K23 A_DDR2_DQM1 B_DDR2_DQM1 A17 B_UDQM
A_LDQM J25 A_DDR2_DQM0 B_DDR2_DQM0 C16 B_LDQM
A_LDQSP J24 A_DDR2_DQS0 B_DDR2_DQS0 B16 B_LDQSP
A_LDQSM J23 A_DDR2_DQSB0 B_DDR2_DQSB0 A16 B_LDQSM
A_UDQSP H25 A_DDR2_DQS1 B_DDR2_DQS1 C15 B_UDQSP
A_UDQSM H24 A_DDR2_DQSB1 B_DDR2_DQSB1 B15 B_UDQSM
A_MCLKZ E23 A_DDR2_MCLKZ B_DDR2_MCLKZ A12 B_MCLKZ
A_MCLK E24 A_DDR2_MCLK B_DDR2_MCLK B12 B_MCLK
A_BA2 P24 A_DDR2_BA2 B_DDR2_BA2 B21 B_BA2
B-MVREF D12 MDDR_VREF
MSD209GX

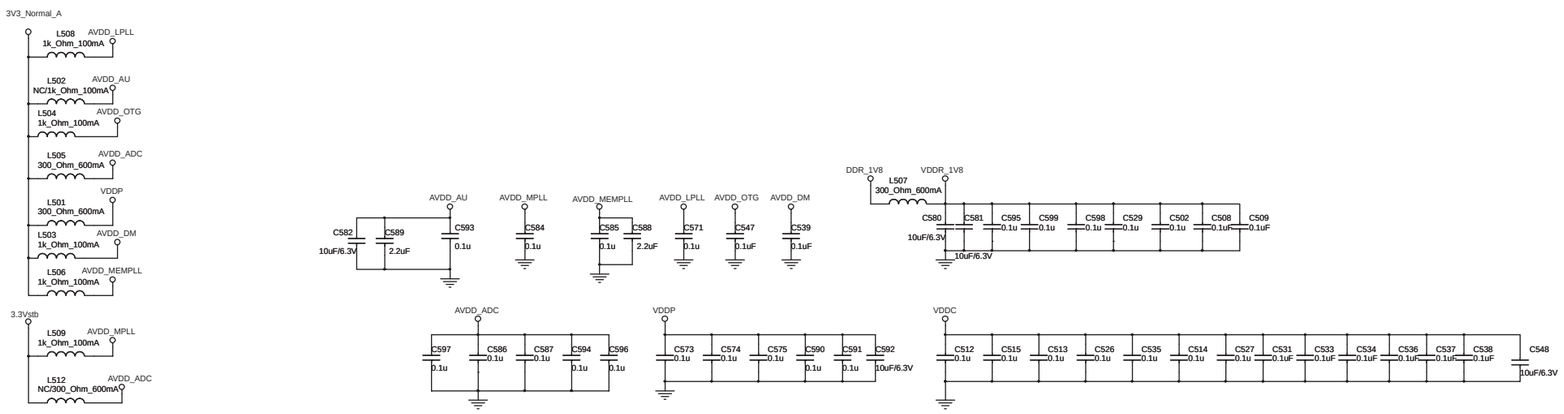

VDDR_1V8
R506
10K1%
MDDR_VREF
R517
10K1%
C519
0.1u


VDDC
N501F
L9 GND VDDC H18
L10 GND VDDC H19
L11 GND VDDC H20
L12 GND VDDC J20
L13 GND VDDC K20
L14 GND VDDC L20
L15 GND VDDC M20
L16 GND VDDC N20
L17 GND VDDC P7
L18 GND VDDC R7
M9 GND VDDC T7
M10 GND VDDC U7
M11 GND VDDC V7
M12 GND VDDL_DVI_C/VDDC W11
M13 GND VDDC W12
M14 GND VDDC W13
M15 GND VDDC D14
M16 GND VDDC D15
M17 GND VDDC D16
M18 GND VDDC D17
N9 GND VDDC D18
N10 GND VDDC D19
N11 GND VDDC D20
N12 GND VDDC D21
N13 GND VDDC D22
N14 GND VDDC D13
N15 GND VDDC E22
N16 GND VDDC F22
N17 GND
N18 GND
P9 GND
P10 GND
P11 GND
P12 GND
P13 GND VDDP H9
P14 GND VDDP H10
P15 GND VDDP H11
P16 GND VDDP H12
P17 GND VDDP W9
P18 GND VDDP W10
R9 GND VDDP P20
R10 GND VDDP R20
R11 GND VDDP T20
R12 GND VDDP U20
R13 GND
R14 GND AVDD_ADC M7
R15 GND AVDD_ADC N7
R16 GND
R17 GND
R18 GND AVDD_AUSDM W7
T9 GND
T10 GND AVDD_DDR F12
T11 GND AVDD_DDR F13
T12 GND AVDD_DDR W14
T13 GND AVDD_DDR W15
T14 GND AVDD_DDR W16
T15 GND AVDD_DDR W17
T16 GND AVDD_DDR W18
T17 GND AVDD_DDR G12
T18 GND AVDD_DDR G13
G22 GND AVDD_DDR H13
H22 GND AVDD_DDR H14
E12 GND AVDD_DDR H15
E13 GND AVDD_DDR H16
E14 GND AVDD_DDR H17
E15 GND
E16 GND
E17 GND AVDD_MEMPLL W20
E18 GND AVDD_MEMPLL V20
E19 GND
E20 GND AVDD_LPLL W19
E21 GND
F21 GND
G21 GND AVDD_MPLL H7
H21 GND
L4 GND AVDD_OTG H8
M4 GND
N4 GND AVDD_33 K7
P4 GND AVDD_33 L7
K5 GND AVDD_33 J7
R5 GND
T5 GND AVDD_DM W8
U5 GND
V5 GND
AA6 GND
AA7 GND
AA11 GND GND L22
AA15 GND GND M22
AA16 GND GND N22
AA17 GND GND P22
AA18 GND GND R22
J22 GND GND T22
K22 GND
MSD209GX
VDDP
AVDD_ADC
AVDD_AU
VDDR_1V8
AVDD_MEMPLL
AVDD_LPLL
AVDD_MPLL
AVDD_OTG
AVDD_ADC
AVDD_DM

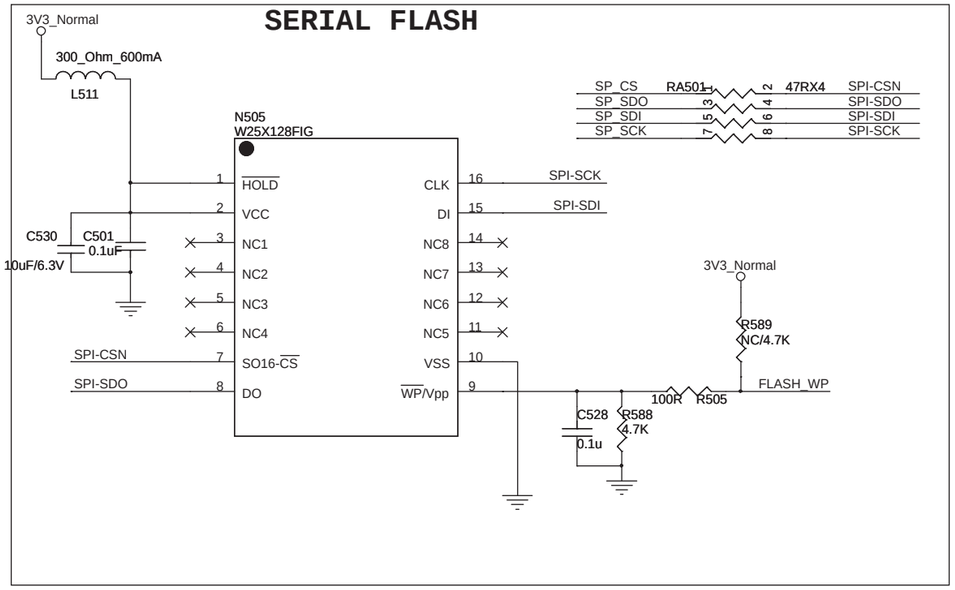

A_MCLK A_MCLK
A_MCLKZ A_MCLKZ
A_MADR[12:0] A_MADR[12:0]
A_CKE A_CKE
A_WEZ A_WEZ
A_CASZ A_CASZ
A_RASZ A_RASZ
A_BA0 A_BA0
A_BA1 A_BA1
A_BA2 A_BA2
A_ODT A_ODT
A_UDQM A_UDQM
A_LDQM A_LDQM
A_LDQSP A_LDQSP
A_LDQSM A_LDQSM
A_UDQSP A_UDQSP
A_UDQSM A_UDQSM
A_MDATA[15:0] A_MDATA[15:0]
B_MCLK B_MCLK
B_MCLKZ B_MCLKZ
B_MADR[12:0] B_MADR[12:0]
B_CKE B_CKE
B_WEZ B_WEZ
B_CASZ B_CASZ
B_RASZ B_RASZ
B_BA0 B_BA0
B_BA1 B_BA1
B_BA2 B_BA2
B_ODT B_ODT
B_UDQM B_UDQM
B_LDQM B_LDQM
B_LDQSP B_LDQSP
B_LDQSM B_LDQSM
B_UDQSP B_UDQSP
B_UDQSM B_UDQSM
B_MDATA[15:0] B_MDATA[15:0]

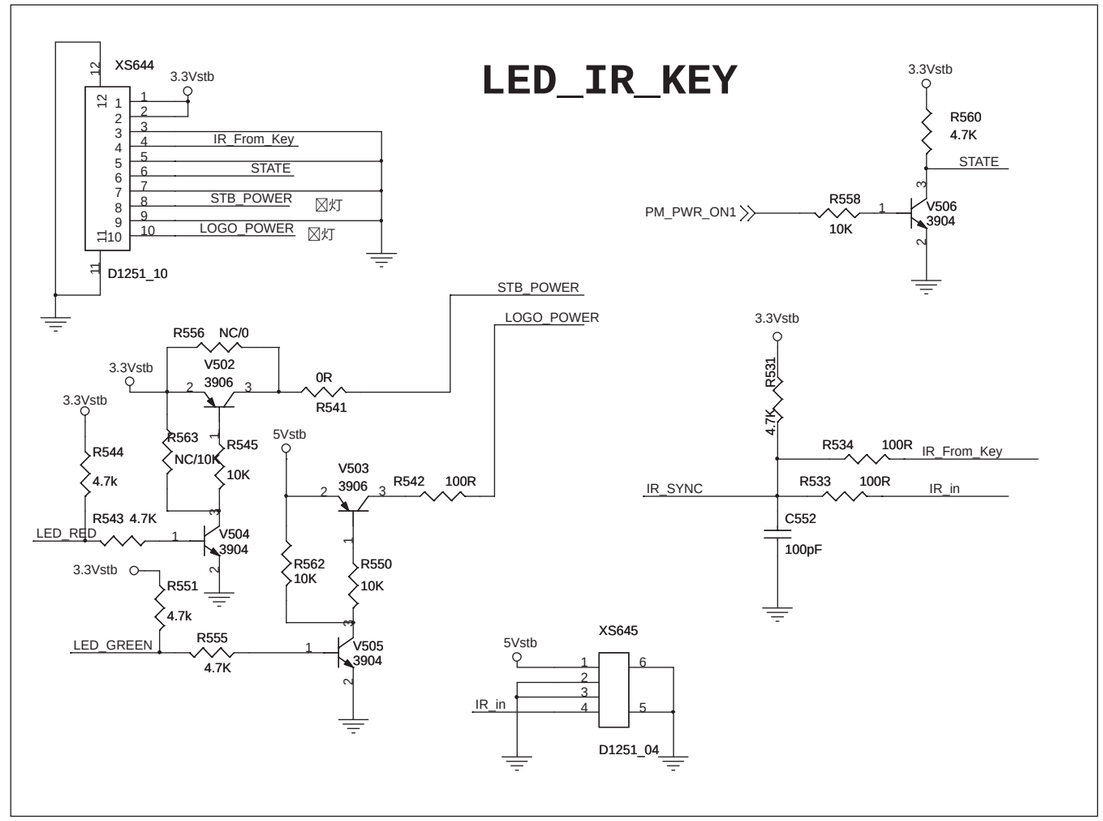
PCI Principal - Circuito Integrado MSD209

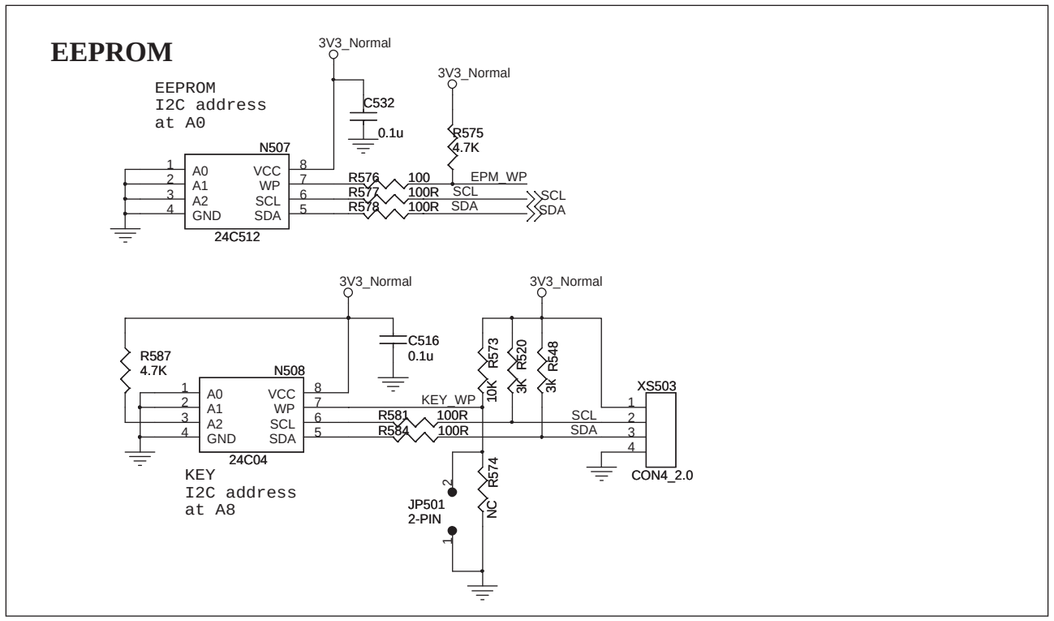




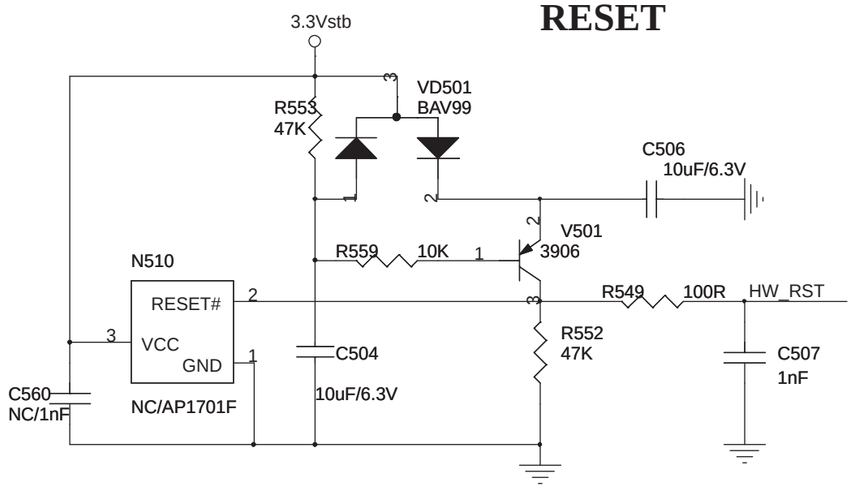
PCI Principal - Circuito Integrado MSD209



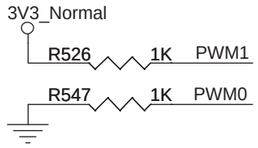




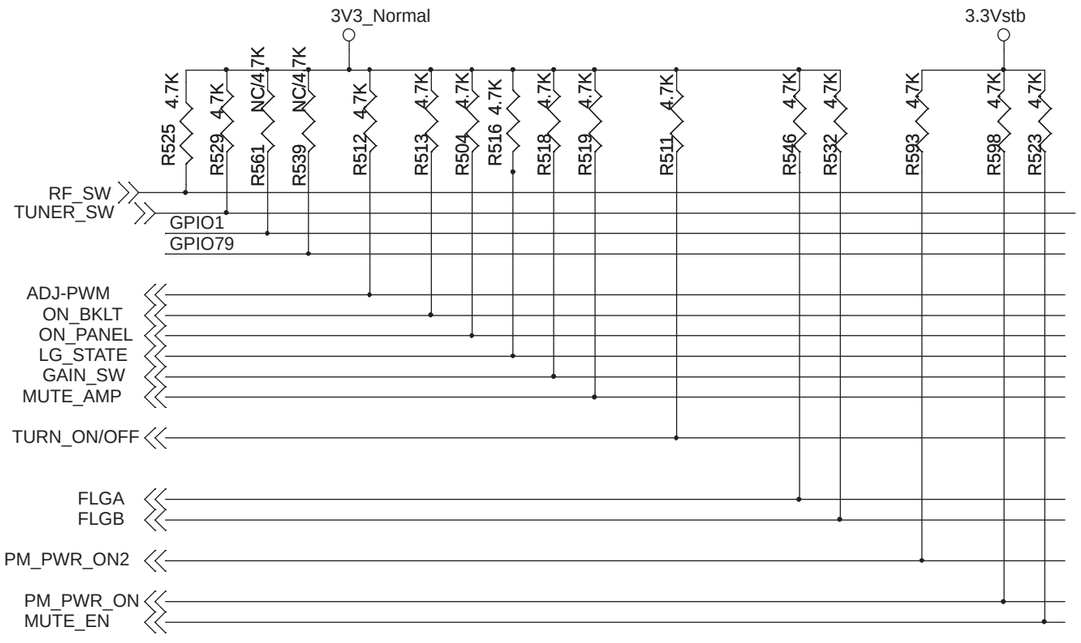
RESET



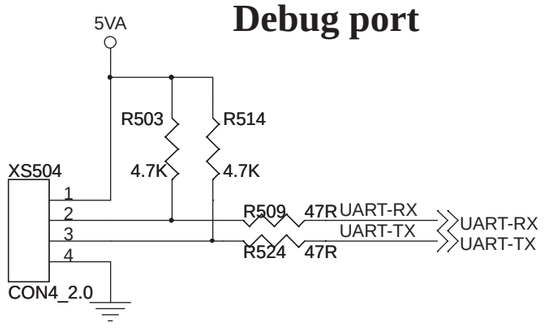
Mode Selection



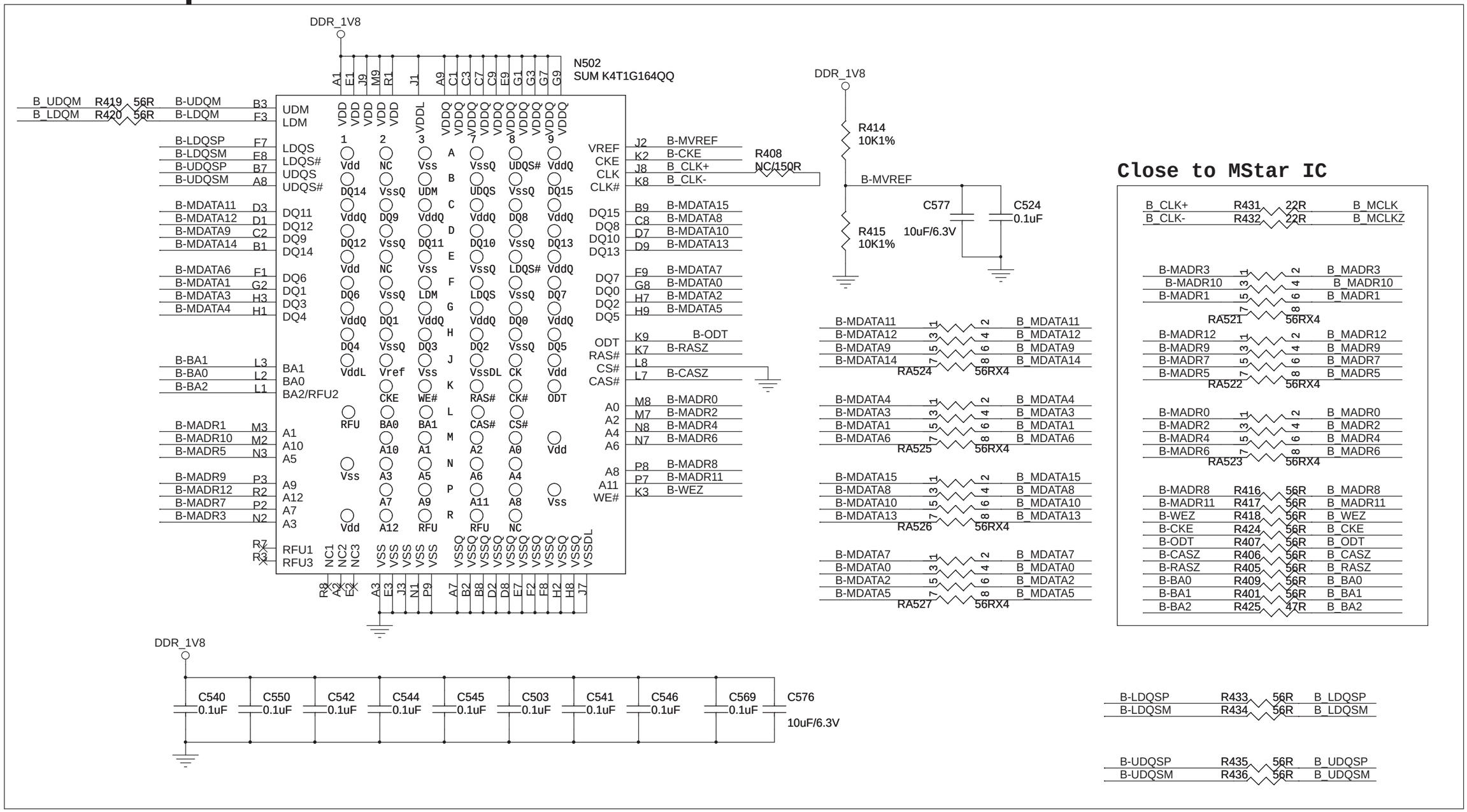
GPIO



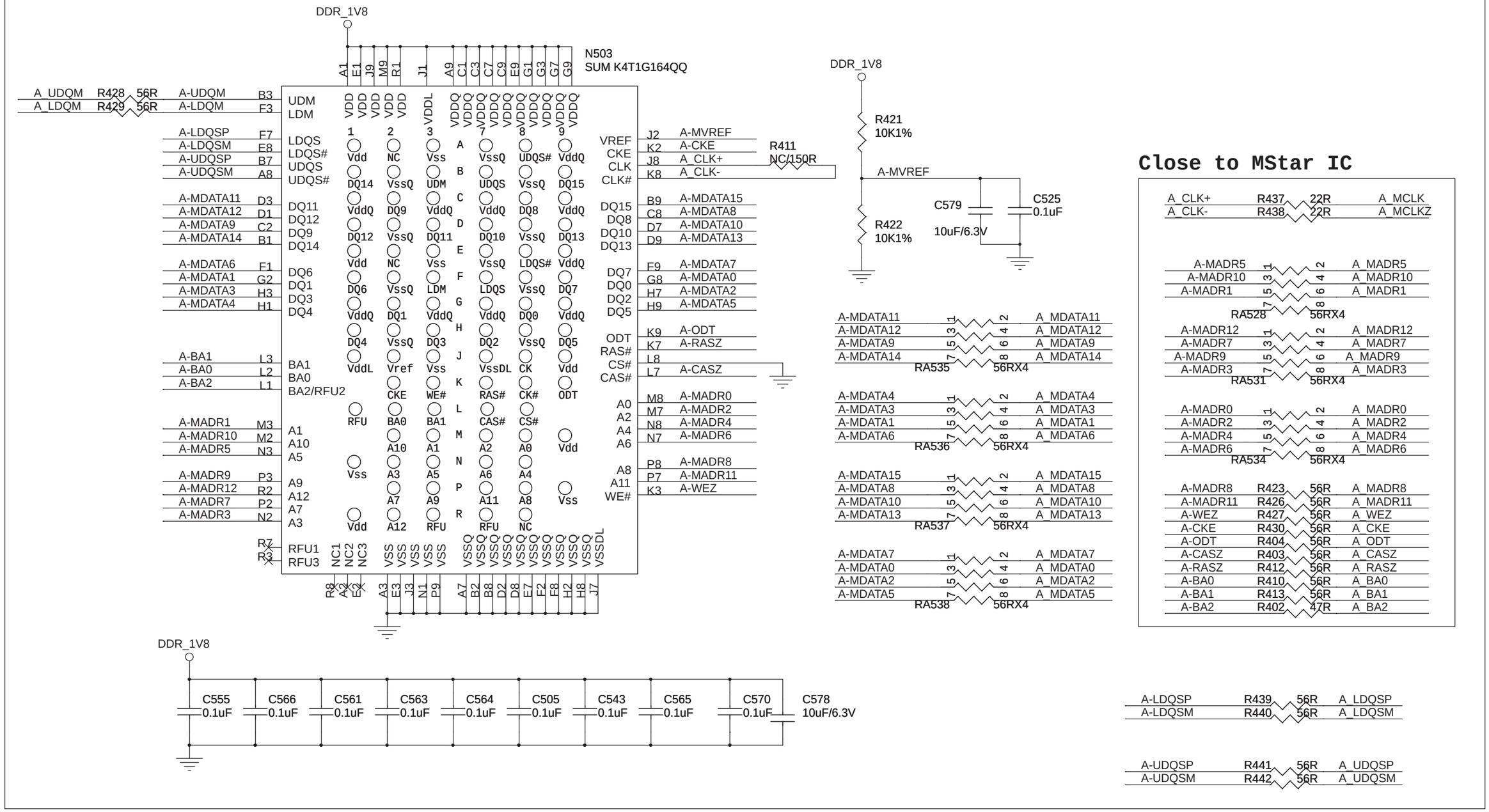
Debug port



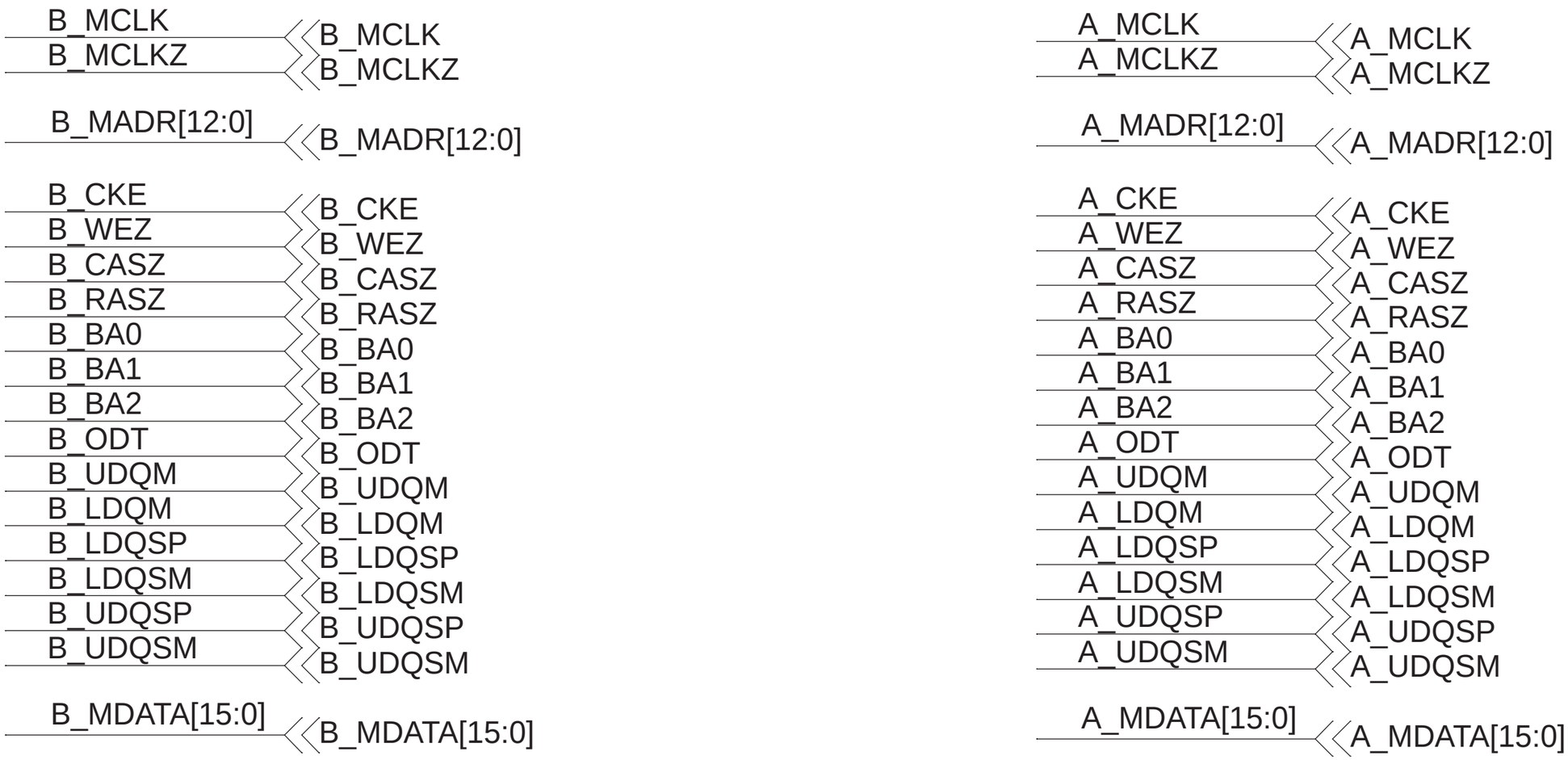
DDR2 Chip


DDR_1V8
N502
SUM K4T1G164QQ
B_UDQM R419 56R B-UDQM B3
B_LDQM R420 56R B-LDQM F3
B-LDQSP F7
B-LDQSM E8
B-UDQSP B7
B-UDQSM A8
B-MDATA11 D3
B-MDATA12 D1
B-MDATA9 C2
B-MDATA14 B1
B-MDATA6 F1
B-MDATA1 G2
B-MDATA3 H3
B-MDATA4 H1
B-BA1 L3
B-BA0 L2
B-BA2 L1
B-MADR1 M3
B-MADR10 M2
B-MADR5 N3
B-MADR9 P3
B-MADR12 R2
B-MADR7 P2
B-MADR3 N2
R7
R3
R8
A2
E2
A3
E3
J3
N1
P9
A7
B2
B8
D2
D8
E7
E2
E8
H2
H8
J7
J2 B-MVREF
K2 B-CKE
J8 B_CLK+
K8 B_CLK-
B9 B-MDATA15
C8 B-MDATA8
D7 B-MDATA10
D9 B-MDATA13
F9 B-MDATA7
G8 B-MDATA0
H7 B-MDATA2
H9 B-MDATA5
K9 B-ODT
K7 B-RASZ
L8
L7 B-CASZ
M8 B-MADR0
M7 B-MADR2
N8 B-MADR4
N7 B-MADR6
P8 B-MADR8
P7 B-MADR11
K3 B-WEZ
R408 NC/150R
DDR_1V8
R414 10K1%
B-MVREF
R415 10K1%
C577 10uF/6.3V
C524 0.1uF
B-MDATA11 B_MDATA11
B-MDATA12 B_MDATA12
B-MDATA9 B_MDATA9
B-MDATA14 B_MDATA14
RA524 56RX4
B-MDATA4 B_MDATA4
B-MDATA3 B_MDATA3
B-MDATA1 B_MDATA1
B-MDATA6 B_MDATA6
RA525 56RX4
B-MDATA15 B_MDATA15
B-MDATA8 B_MDATA8
B-MDATA10 B_MDATA10
B-MDATA13 B_MDATA13
RA526 56RX4
B-MDATA7 B_MDATA7
B-MDATA0 B_MDATA0
B-MDATA2 B_MDATA2
B-MDATA5 B_MDATA5
RA527 56RX4
Close to MStar IC
B_CLK+ R431 22R B_MCLK
B_CLK- R432 22R B_MCLKZ
B-MADR3 B_MADR3
B-MADR10 B_MADR10
B-MADR1 B_MADR1
RA521 56RX4
B-MADR12 B_MADR12
B-MADR9 B_MADR9
B-MADR7 B_MADR7
B-MADR5 B_MADR5
RA522 56RX4
B-MADR0 B_MADR0
B-MADR2 B_MADR2
B-MADR4 B_MADR4
B-MADR6 B_MADR6
RA523 56RX4
B-MADR8 R416 56R B_MADR8
B-MADR11 R417 56R B_MADR11
B-WEZ R418 56R B_WEZ
B-CKE R424 56R B_CKE
B-ODT R407 56R B_ODT
B-CASZ R406 56R B_CASZ
B-RASZ R405 56R B_RASZ
B-BA0 R409 56R B_BA0
B-BA1 R401 56R B_BA1
B-BA2 R425 47R B_BA2
DDR_1V8
C540 0.1uF
C550 0.1uF
C542 0.1uF
C544 0.1uF
C545 0.1uF
C503 0.1uF
C541 0.1uF
C546 0.1uF
C569 0.1uF
C576 10uF/6.3V
B-LDQSP R433 56R B_LDQSP
B-LDQSM R434 56R B_LDQSM
B-UDQSP R435 56R B_UDQSP
B-UDQSM R436 56R B_UDQSM

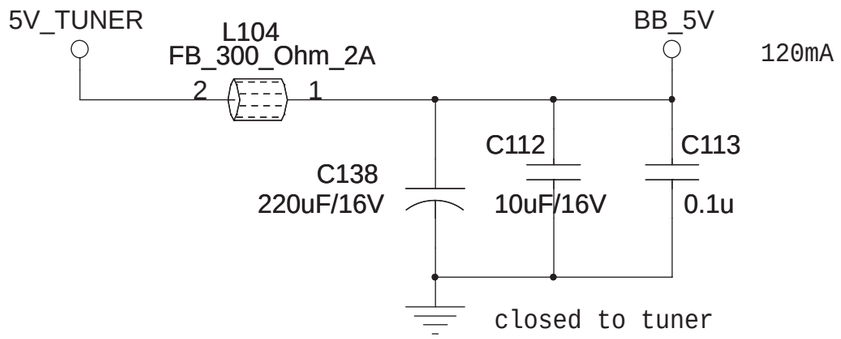
PCI Principal - Circuito Integrado DDR

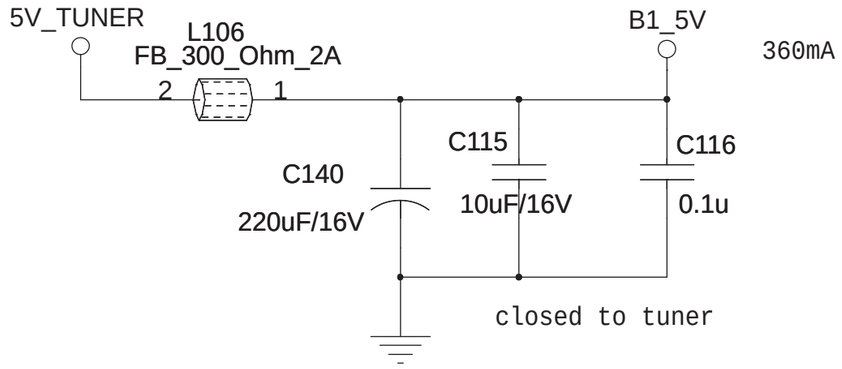


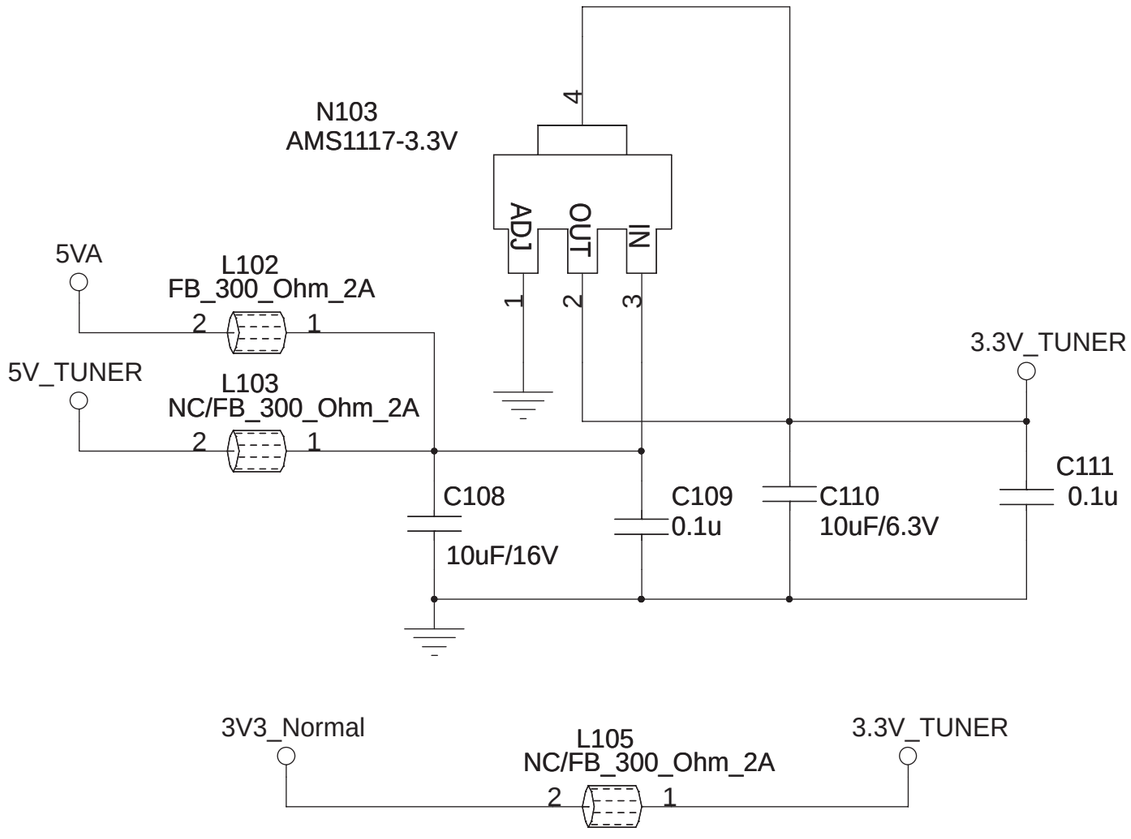
DDR2 Chip

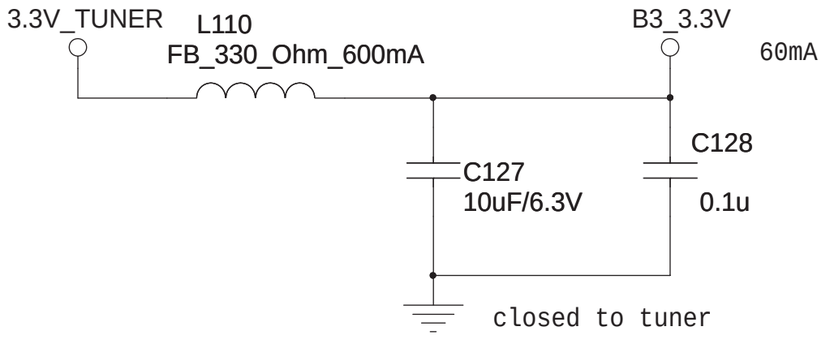

B_MCLK
B_MCLKZ
B_MCLK
B_MCLKZ
B_MADR[12:0]
B_MADR[12:0]
B_CKE
B_WEZ
B_CASZ
B_RASZ
B_BA0
B_BA1
B_BA2
B_ODT
B_UDQM
B_LDQM
B_LDQSP
B_LDQSM
B_UDQSP
B_UDQSM
B_CKE
B_WEZ
B_CASZ
B_RASZ
B_BA0
B_BA1
B_BA2
B_ODT
B_UDQM
B_LDQM
B_LDQSP
B_LDQSM
B_UDQSP
B_UDQSM
B_MDATA[15:0]
B_MDATA[15:0]
A_MCLK
A_MCLKZ
A_MCLK
A_MCLKZ
A_MADR[12:0]
A_MADR[12:0]
A_CKE
A_WEZ
A_CASZ
A_RASZ
A_BA0
A_BA1
A_BA2
A_ODT
A_UDQM
A_LDQM
A_LDQSP
A_LDQSM
A_UDQSP
A_UDQSM
A_CKE
A_WEZ
A_CASZ
A_RASZ
A_BA0
A_BA1
A_BA2
A_ODT
A_UDQM
A_LDQM
A_LDQSP
A_LDQSM
A_UDQSP
A_UDQSM
A_MDATA[15:0]
A_MDATA[15:0]

TUNER POWER


5V_TUNER
L104
FB_300_Ohm_2A
2
1
BB_5V
120mA
C138
220uF/16V
C112
10uF/16V
C113
0.1u
closed to tuner

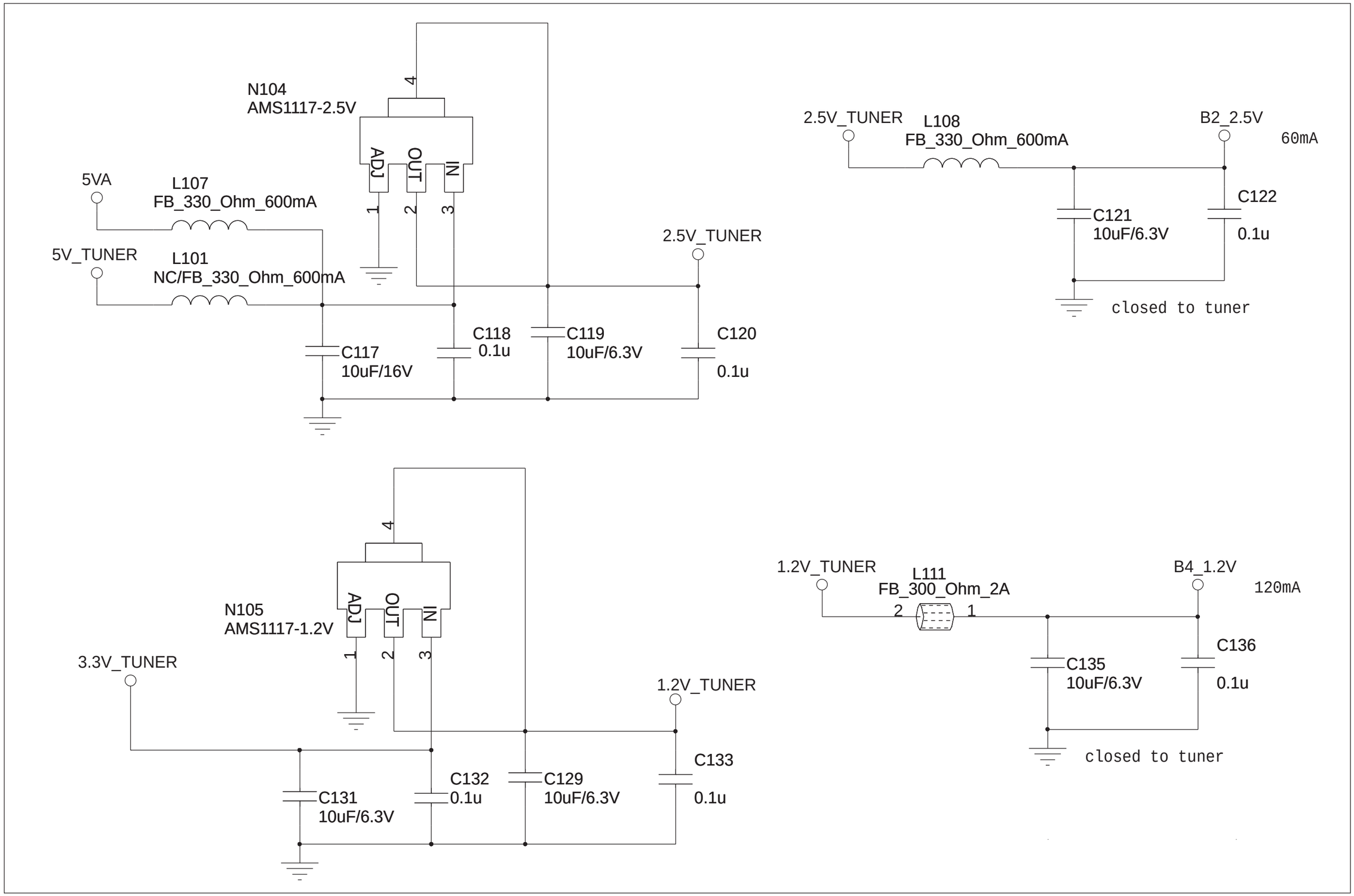

5V_TUNER
L106
FB_300_Ohm_2A
2
1
B1_5V
360mA
C140
220uF/16V
C115
10uF/16V
C116
0.1u
closed to tuner


N103
AMS1117-3.3V
4
ADJ
OUT
IN
1
2
3
5VA
L102
FB_300_Ohm_2A
2
1
5V_TUNER
L103
NC/FB_300_Ohm_2A
2
1
3.3V_TUNER
C108
10uF/16V
C109
0.1u
C110
10uF/6.3V
C111
0.1u

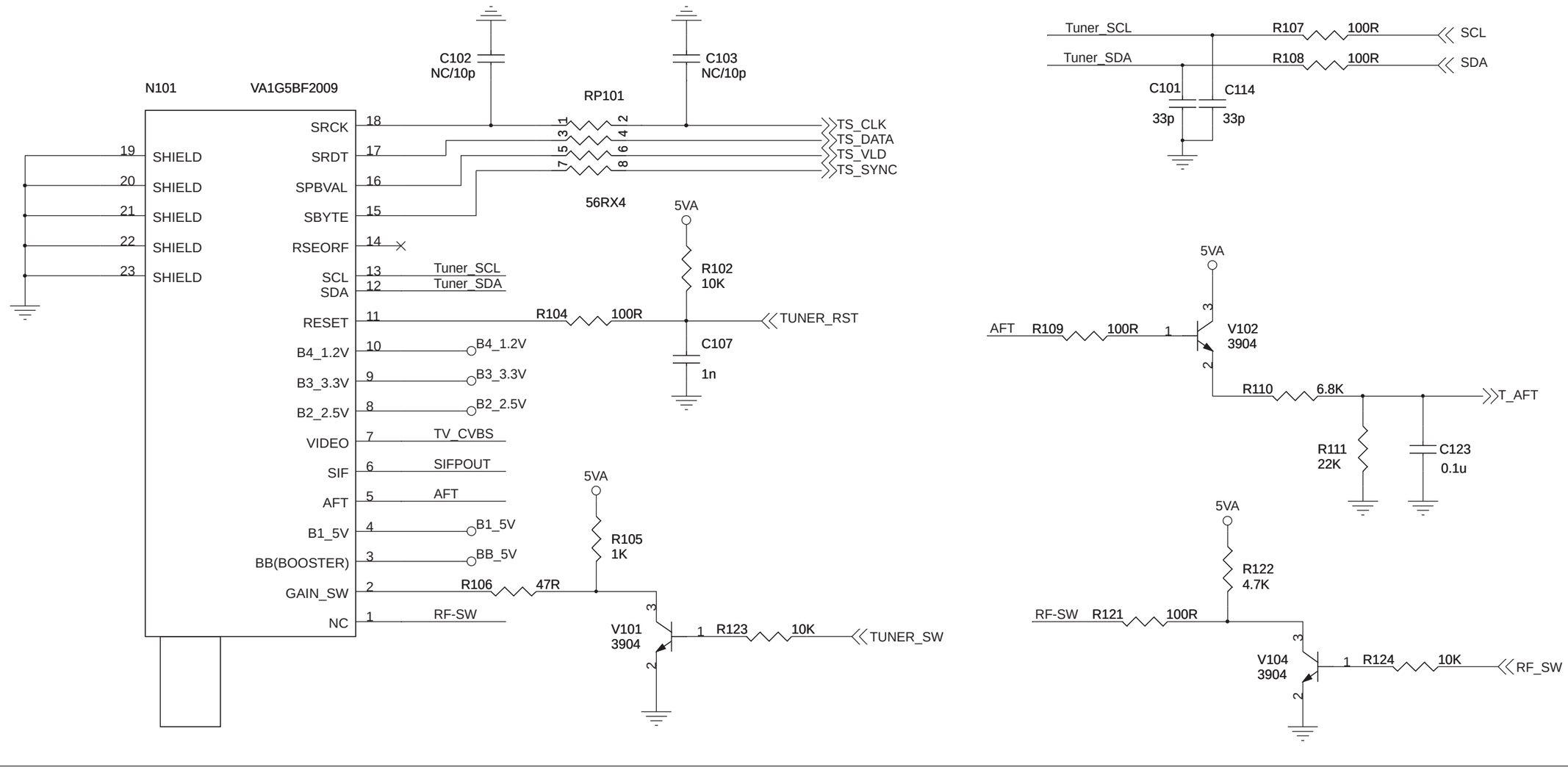

3.3V_TUNER
L110
FB_330_Ohm_600mA
B3_3.3V
60mA
C127
10uF/6.3V
C128
0.1u
closed to tuner

3V3_Normal
L105
NC/FB_300_Ohm_2A
2
1
3.3V_TUNER

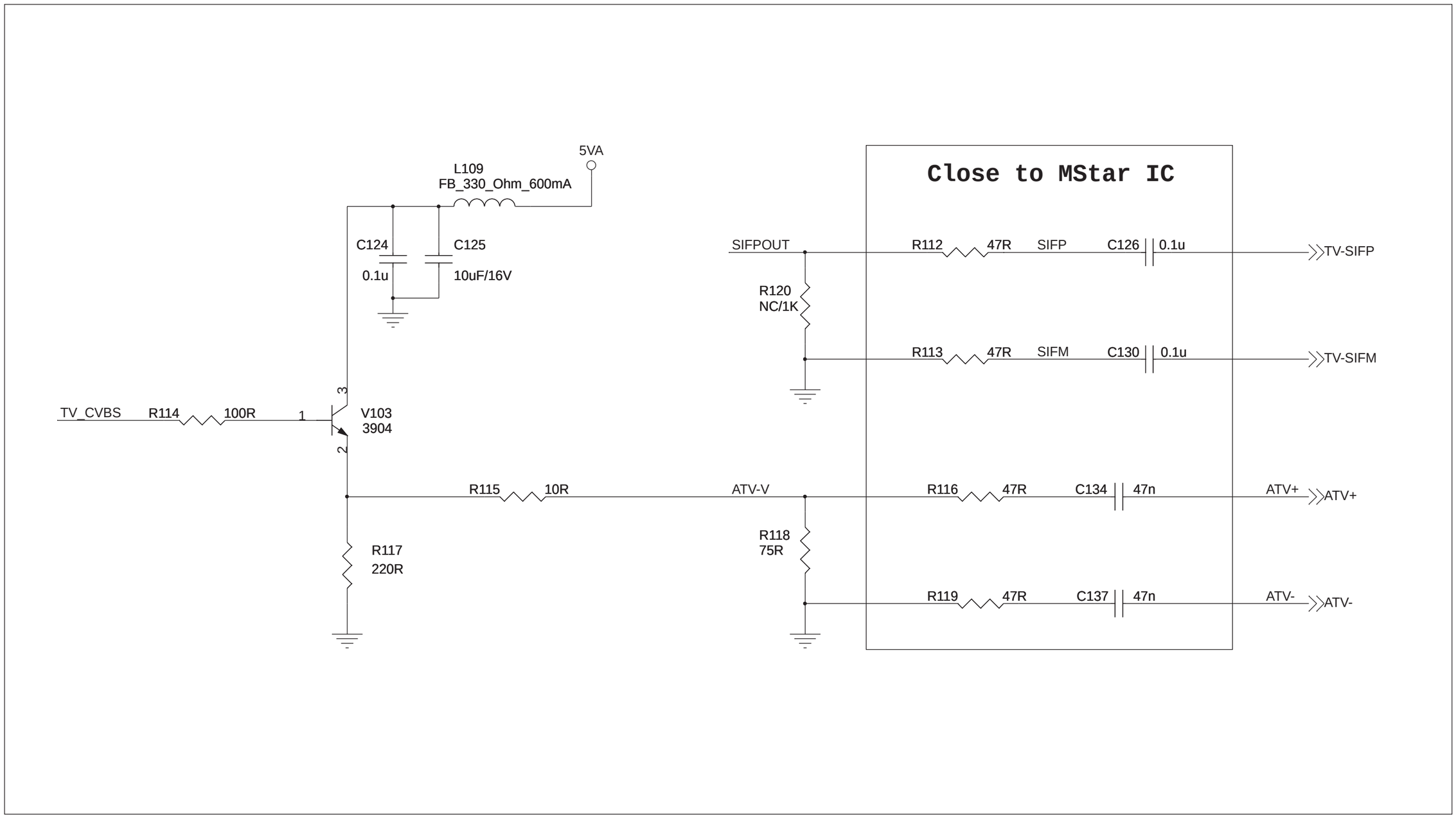
PCI Principal - Sintonizador



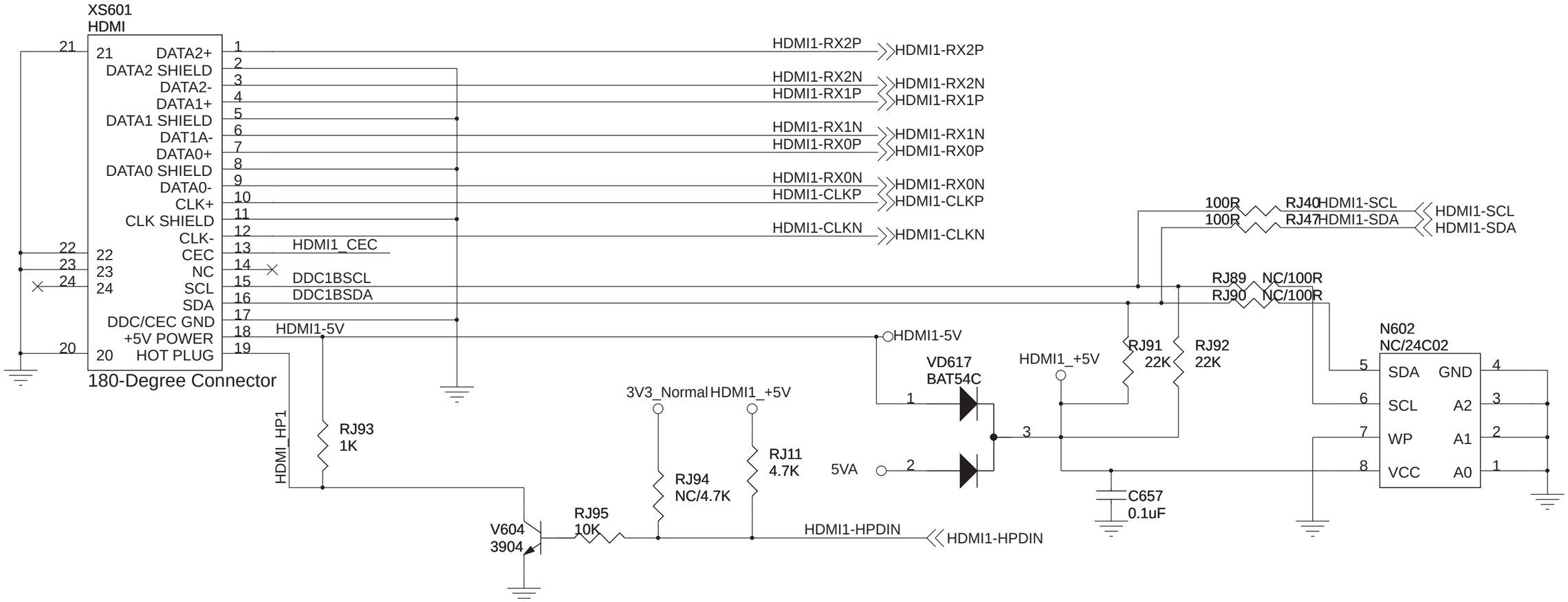
TUNER


N101
VA1G5BF2009
SRCK 18
SRDT 17
SPBVAL 16
SBYTE 15
RSEORF 14
SCL 13
SDA 12
RESET 11
B4_1.2V 10
B3_3.3V 9
B2_2.5V 8
VIDEO 7
SIF 6
AFT 5
B1_5V 4
BB(BOOSTER) 3
GAIN_SW 2
NC 1
SHIELD 19
SHIELD 20
SHIELD 21
SHIELD 22
SHIELD 23
C102
NC/10p
C103
NC/10p
RP101
56RX4
TS_CLK
TS_DATA
TS_VLD
TS_SYNC
Tuner_SCL
Tuner_SDA
R104 100R
TUNER_RST
B4_1.2V
B3_3.3V
B2_2.5V
TV_CVBS
SIFPOUT
AFT
B1_5V
BB_5V
R106 47R
RF-SW
5VA
R102
10K
C107
1n
5VA
R105
1K
V101
3904
R123 10K
TUNER_SW
Tuner_SCL
R107 100R
SCL
Tuner_SDA
R108 100R
SDA
C101
33p
C114
33p
5VA
AFT R109 100R
V102
3904
R110 6.8K
T_AFT
R111
22K
C123
0.1u
5VA
R122
4.7K
RF-SW R121 100R
V104
3904
R124 10K
RF_SW

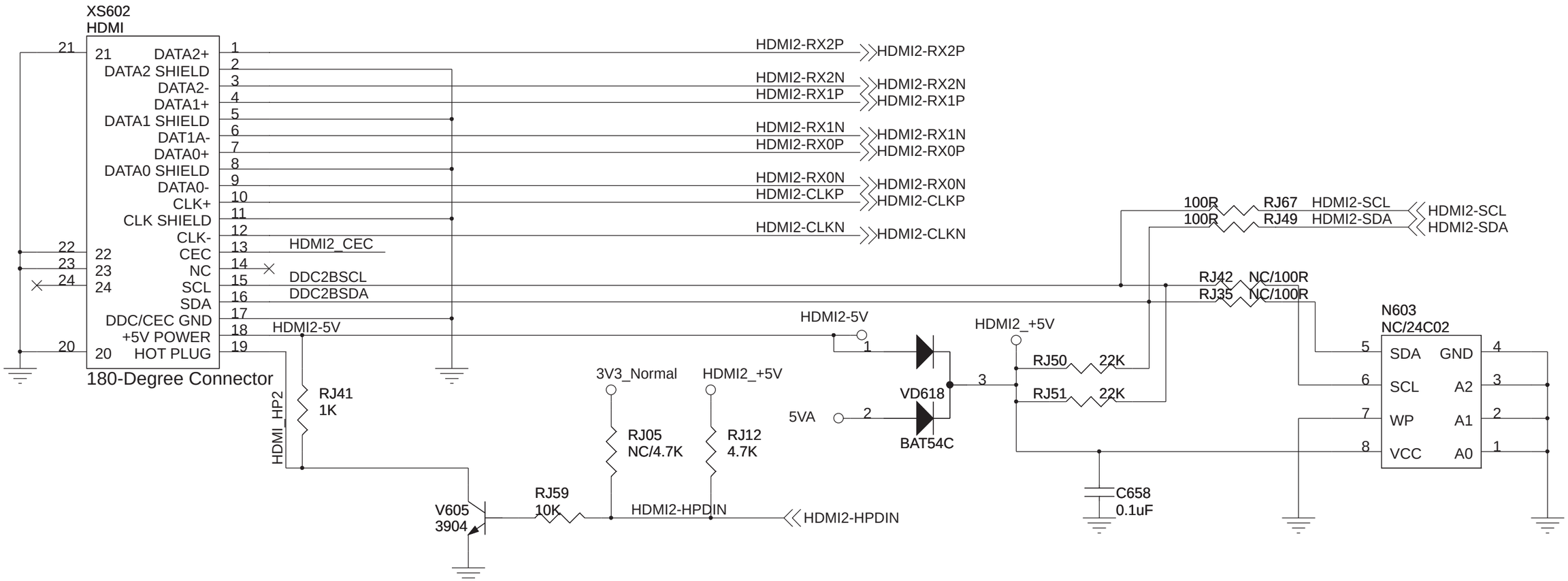
PCI Principal - Sintonizador



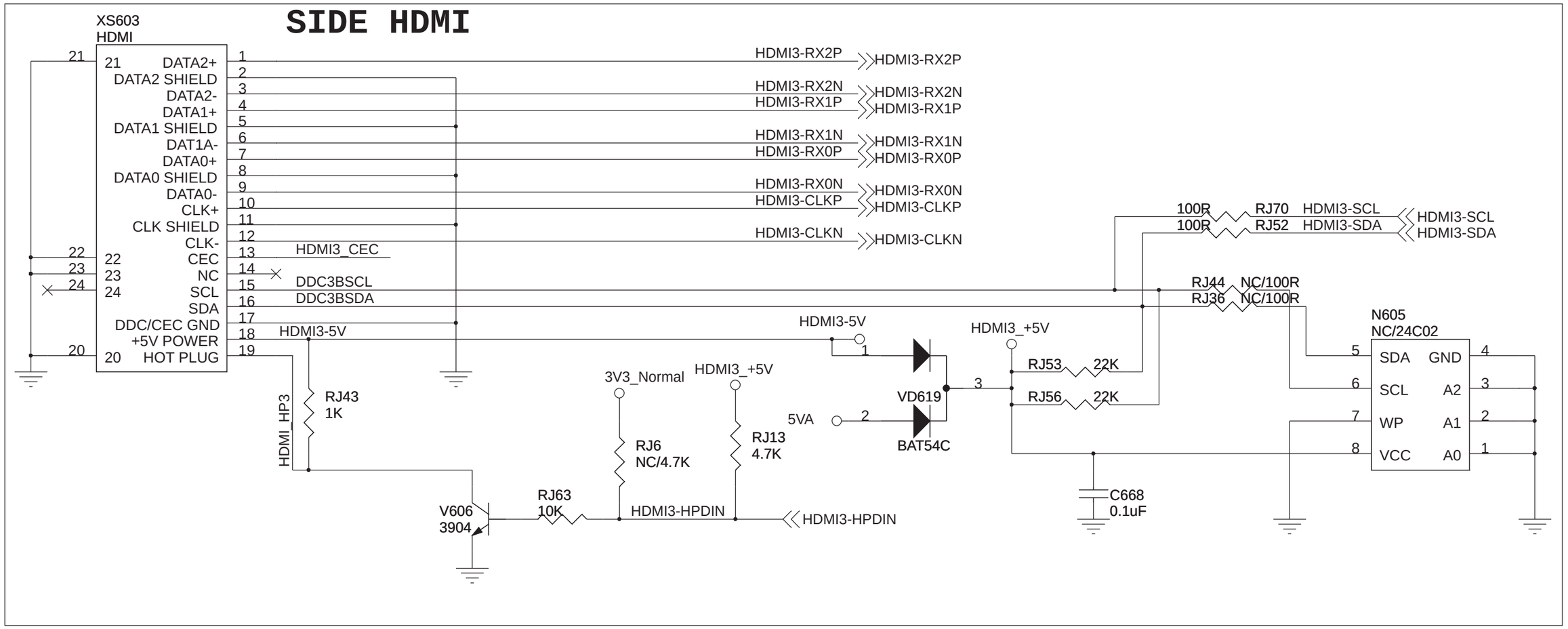
1st HDMI


XS601
HDMI
21 DATA2+
DATA2 SHIELD
DATA2-
DATA1+
DATA1 SHIELD
DAT1A-
DATA0+
DATA0 SHIELD
DATA0-
CLK+
CLK SHIELD
CLK-
22 CEC
23 NC
24 SCL
SDA
DDC/CEC GND
+5V POWER
20 HOT PLUG
180-Degree Connector
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
HDMI1-RX2P
HDMI1-RX2N
HDMI1-RX1P
HDMI1-RX1N
HDMI1-RX0P
HDMI1-RX0N
HDMI1-CLKP
HDMI1-CLKN
HDMI1_CEC
DDC1BSCL
DDC1BSDA
HDMI1-5V
HDMI_HP1
RJ93
1K
100R
RJ40
HDMI1-SCL
100R
RJ47
HDMI1-SDA
RJ89 NC/100R
RJ90 NC/100R
RJ91
22K
RJ92
22K
HDMI1_+5V
N602
NC/24C02
SDA
SCL
WP
VCC
GND
A2
A1
A0
VD617
BAT54C
3V3_Normal
HDMI1_+5V
RJ94
NC/4.7K
RJ11
4.7K
5VA
RJ95
10K
V604
3904
HDMI1-HPDIN
C657
0.1uF

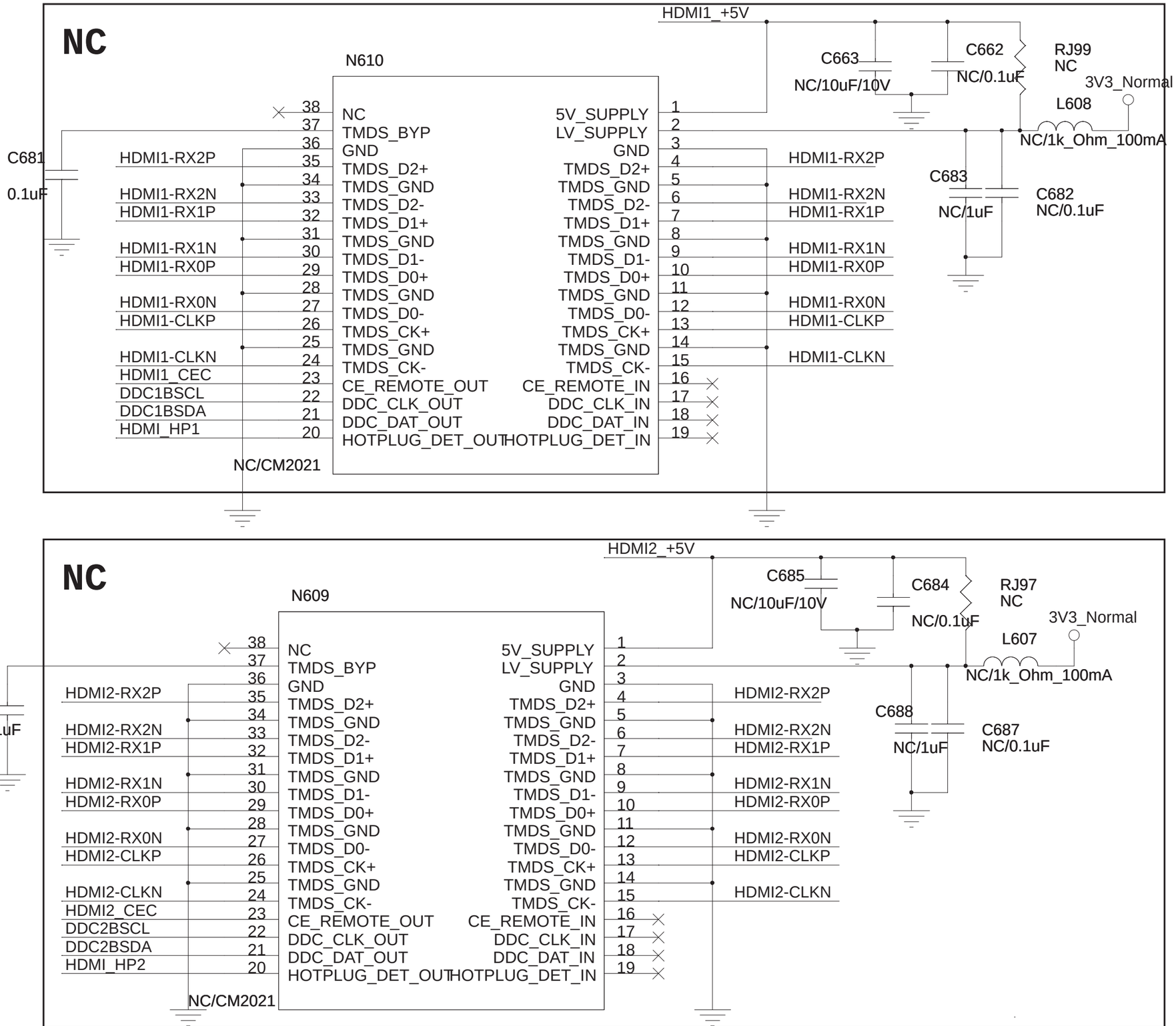
2nd HDMI

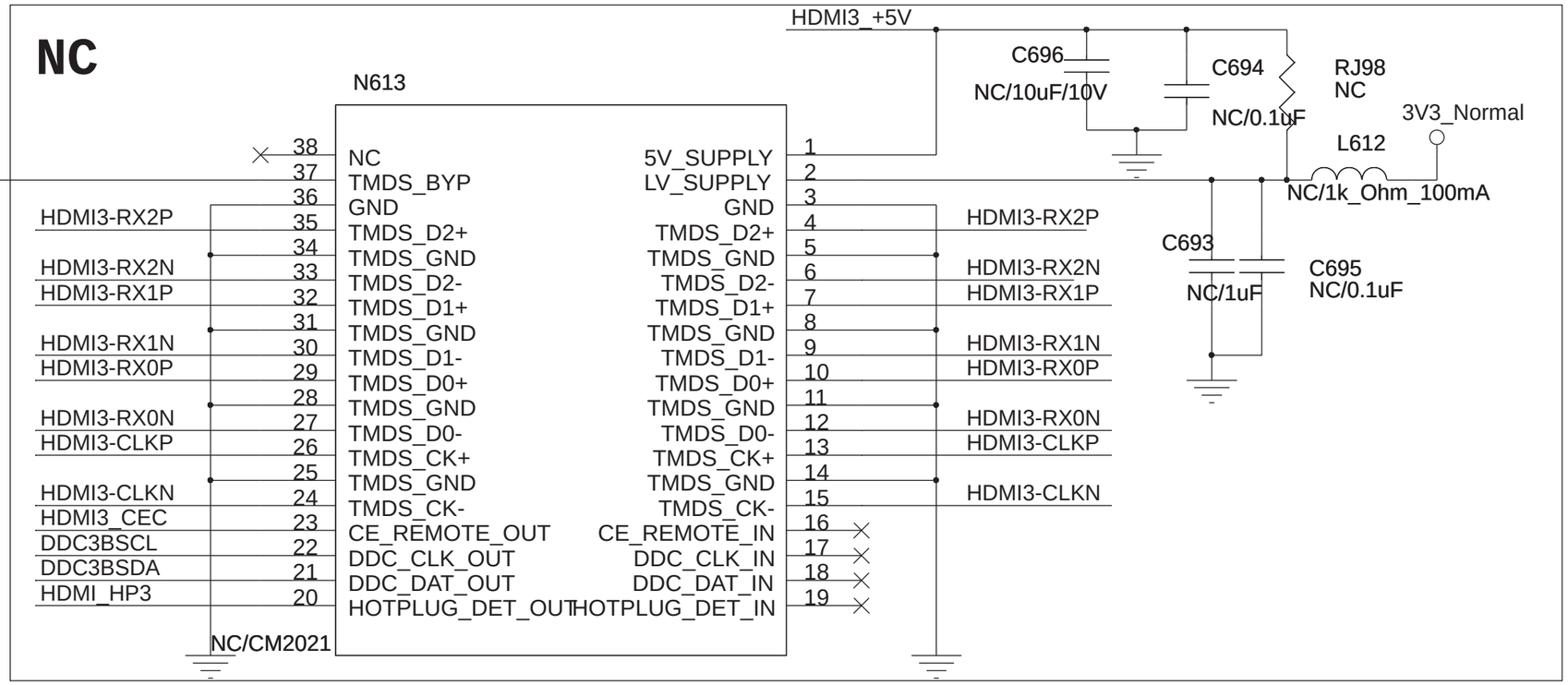

XS602
HDMI
21
21 DATA2+
DATA2 SHIELD
DATA2-
DATA1+
DATA1 SHIELD
DAT1A-
DATA0+
DATA0 SHIELD
DATA0-
CLK+
CLK SHIELD
CLK-
22 CEC
23 NC
24 SCL
SDA
DDC/CEC GND
+5V POWER
20 HOT PLUG
180-Degree Connector
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
HDMI2-RX2P
HDMI2-RX2N
HDMI2-RX1P
HDMI2-RX1N
HDMI2-RX0P
HDMI2-RX0N
HDMI2-CLKP
HDMI2-CLKN
HDMI2_CEC
DDC2BSCL
DDC2BSDA
HDMI2-5V
HDMI_HP2
RJ41
1K
3V3_Normal
HDMI2_+5V
RJ05
NC/4.7K
RJ12
4.7K
RJ59
10K
V605
3904
HDMI2-HPDIN
5VA
VD618
BAT54C
RJ50 22K
RJ51 22K
C658
0.1uF
100R RJ67 HDMI2-SCL
100R RJ49 HDMI2-SDA
RJ42 NC/100R
RJ35 NC/100R
N603
NC/24C02
SDA
SCL
WP
VCC
GND
A2
A1
A0

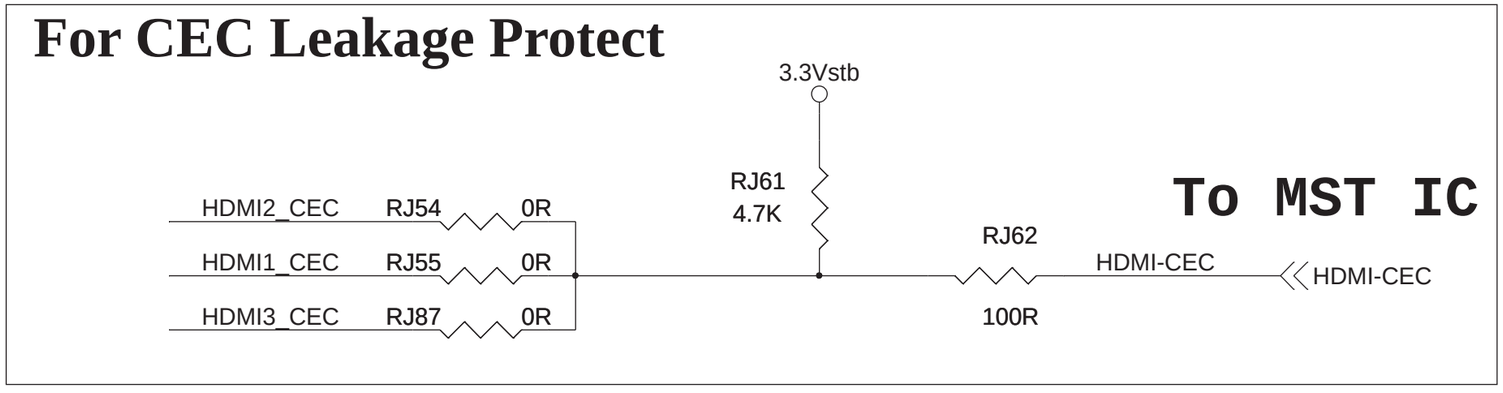
PCI Principal - HDMI



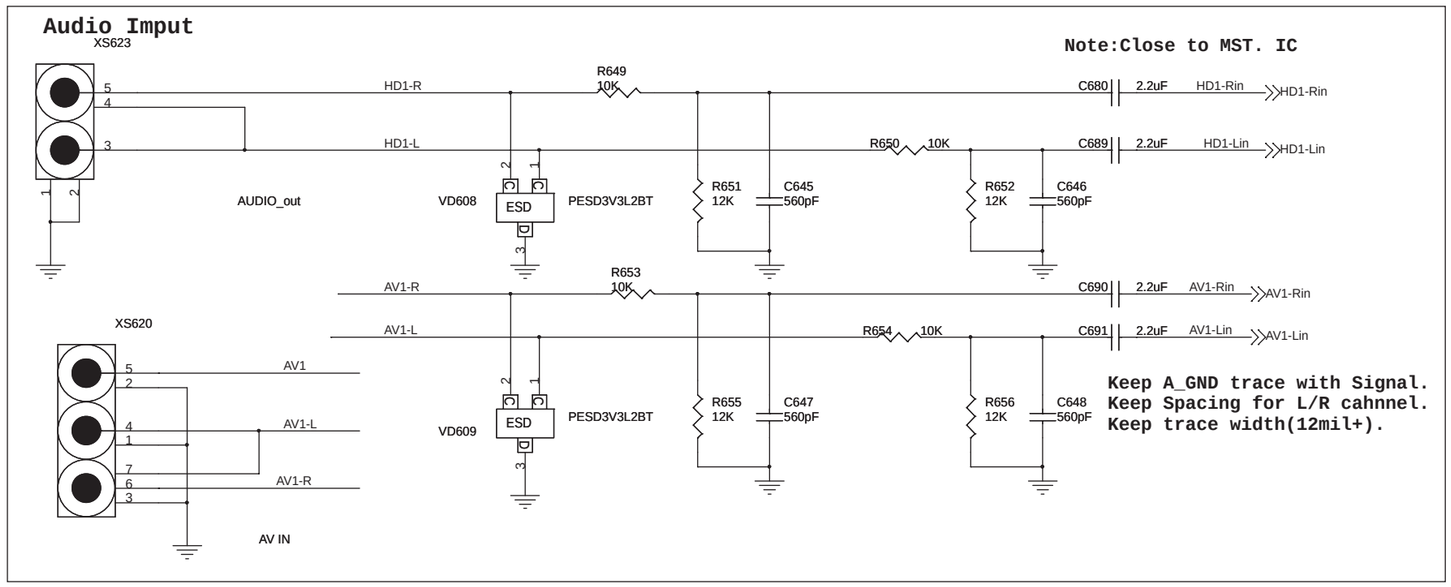
PCI Principal - HDMI

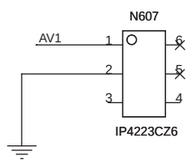


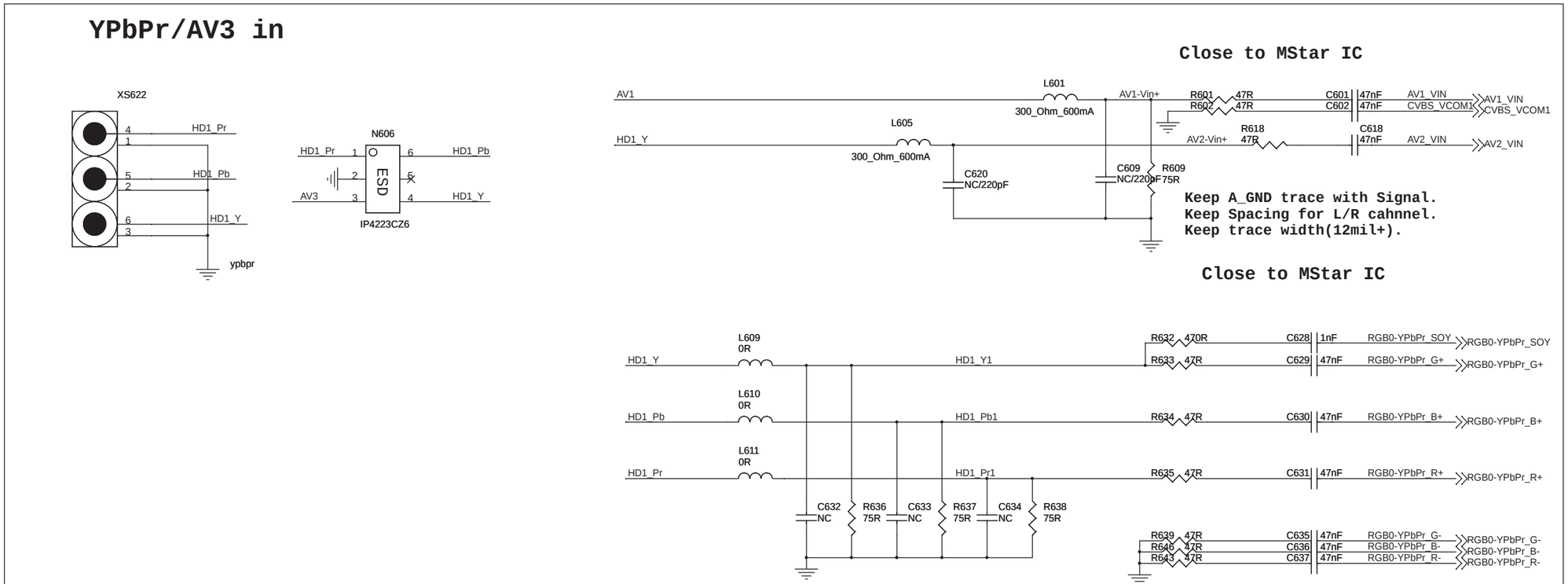

NC
N613
HDMI3_+5V
C696
NC/10uF/10V
C694
NC/0.1uF
RJ98
NC
3V3_Normal
L612
NC/1k_Ohm_100mA
C692
NC/0.1uF
C693
NC/1uF
C695
NC/0.1uF
38 NC
37 TMDS_BYP
36 GND
35 TMDS_D2+
34 TMDS_GND
33 TMDS_D2-
32 TMDS_D1+
31 TMDS_GND
30 TMDS_D1-
29 TMDS_D0+
28 TMDS_GND
27 TMDS_D0-
26 TMDS_CK+
25 TMDS_GND
24 TMDS_CK-
23 CE_REMOTE_OUT
22 DDC_CLK_OUT
21 DDC_DAT_OUT
20 HOTPLUG_DET_OUT
1 5V_SUPPLY
2 LV_SUPPLY
3 GND
4 TMDS_D2+
5 TMDS_GND
6 TMDS_D2-
7 TMDS_D1+
8 TMDS_GND
9 TMDS_D1-
10 TMDS_D0+
11 TMDS_GND
12 TMDS_D0-
13 TMDS_CK+
14 TMDS_GND
15 TMDS_CK-
16 CE_REMOTE_IN
17 DDC_CLK_IN
18 DDC_DAT_IN
19 HOTPLUG_DET_IN
HDMI3-RX2P
HDMI3-RX2N
HDMI3-RX1P
HDMI3-RX1N
HDMI3-RX0P
HDMI3-RX0N
HDMI3-CLKP
HDMI3-CLKN
HDMI3_CEC
DDC3BSCL
DDC3BSDA
HDMI_HP3
NC/CM2021


For CEC Leakage Protect
3.3Vstb
RJ61
4.7K
HDMI2_CEC RJ54 0R
HDMI1_CEC RJ55 0R
HDMI3_CEC RJ87 0R
RJ62
100R
HDMI-CEC
To MST IC
HDMI-CEC

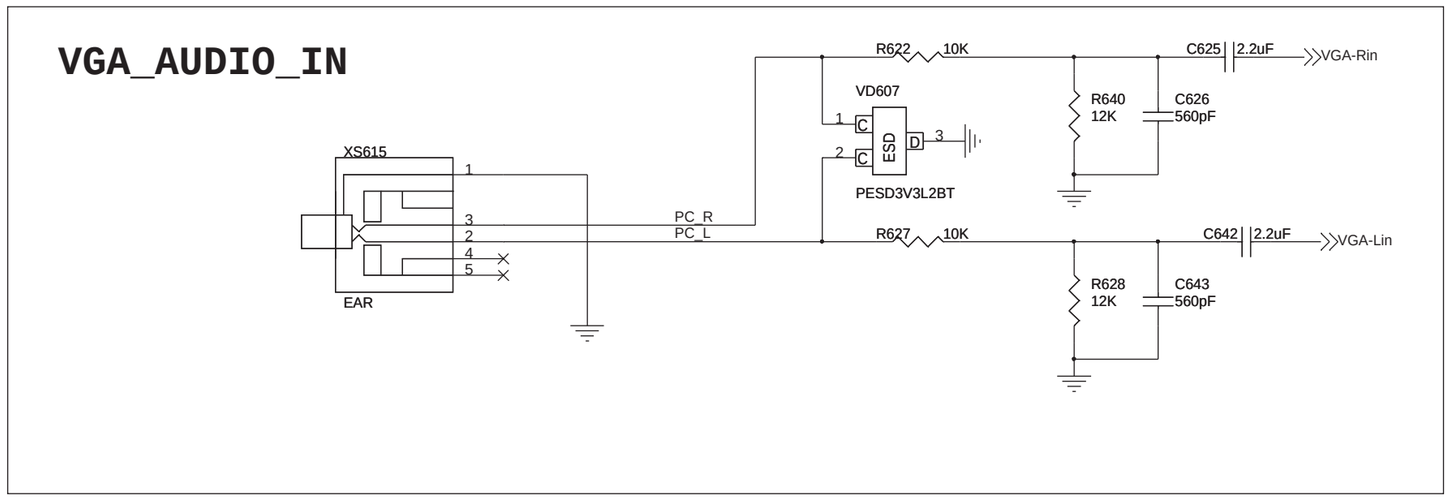
PCI Principal - Tomadas AV

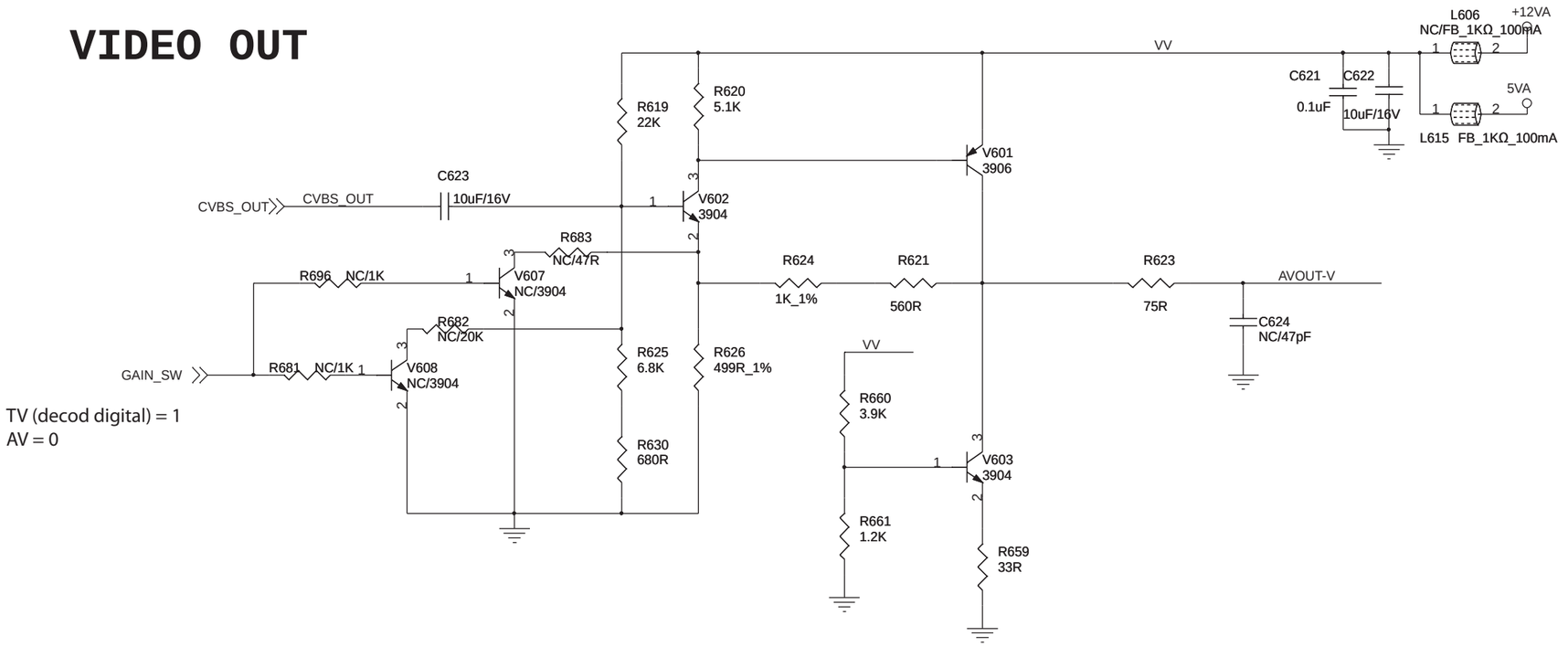




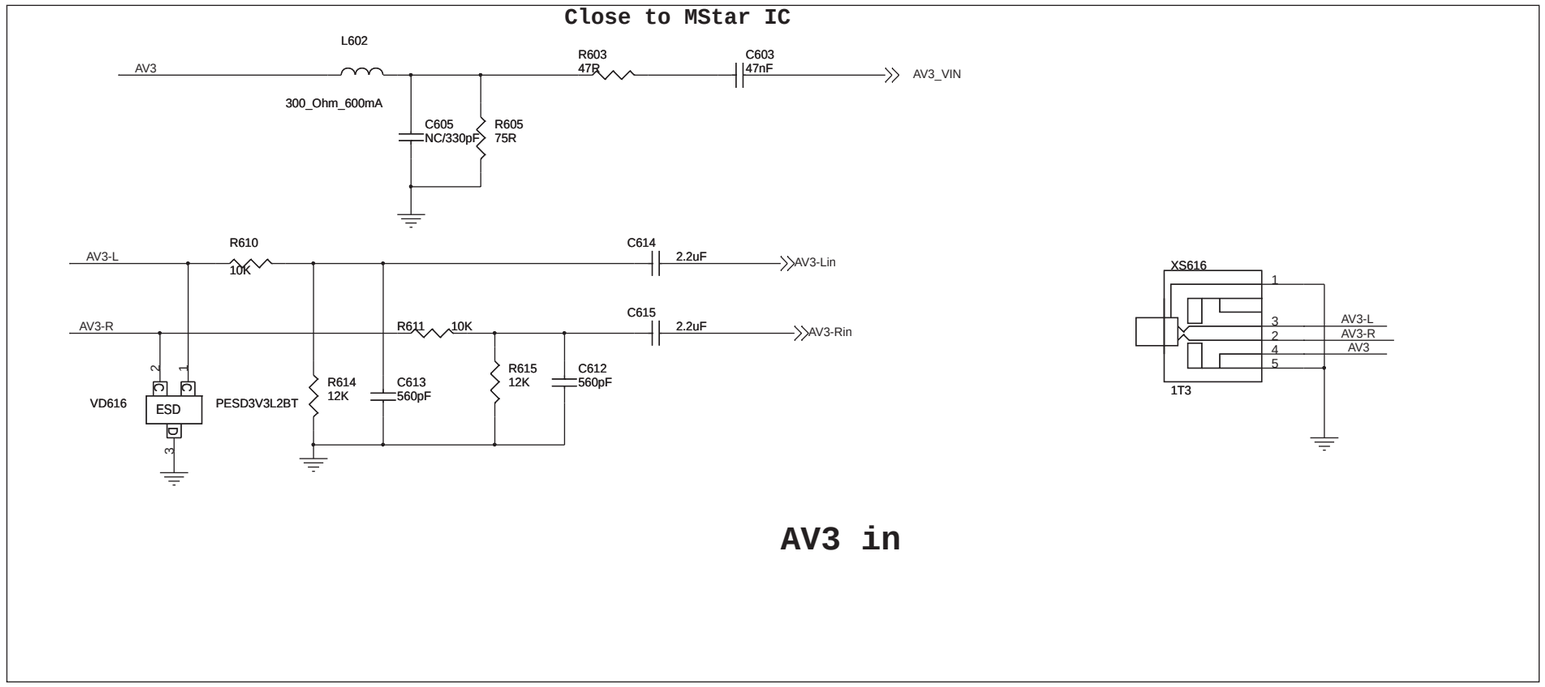


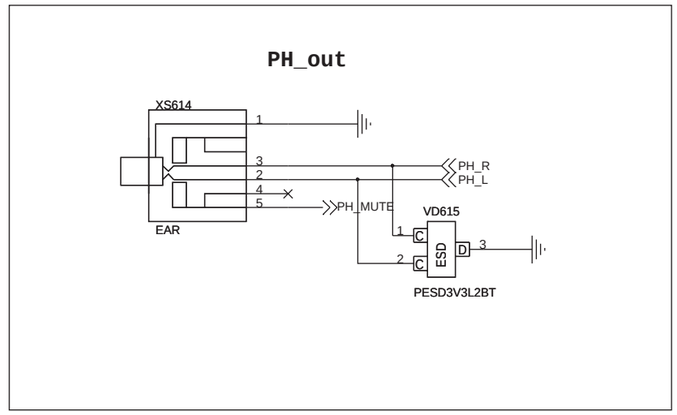
PCI Principal - Tomadas AV

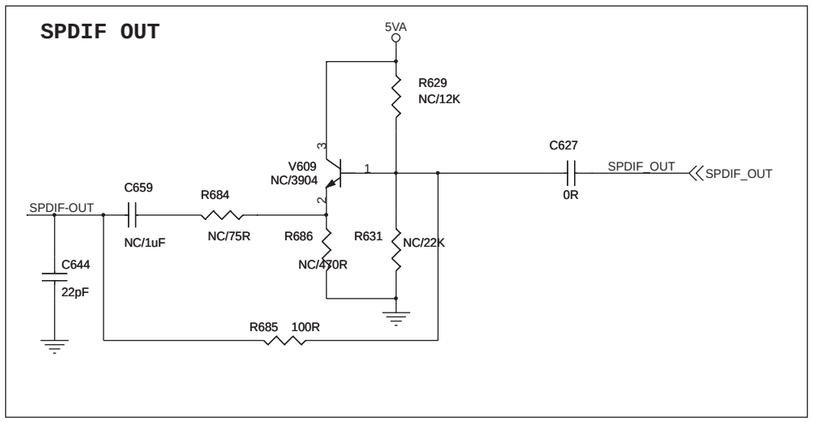


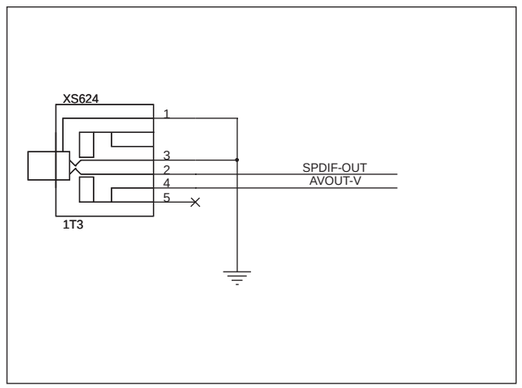


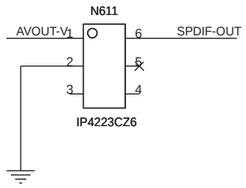
PCI Principal - Tomadas AV



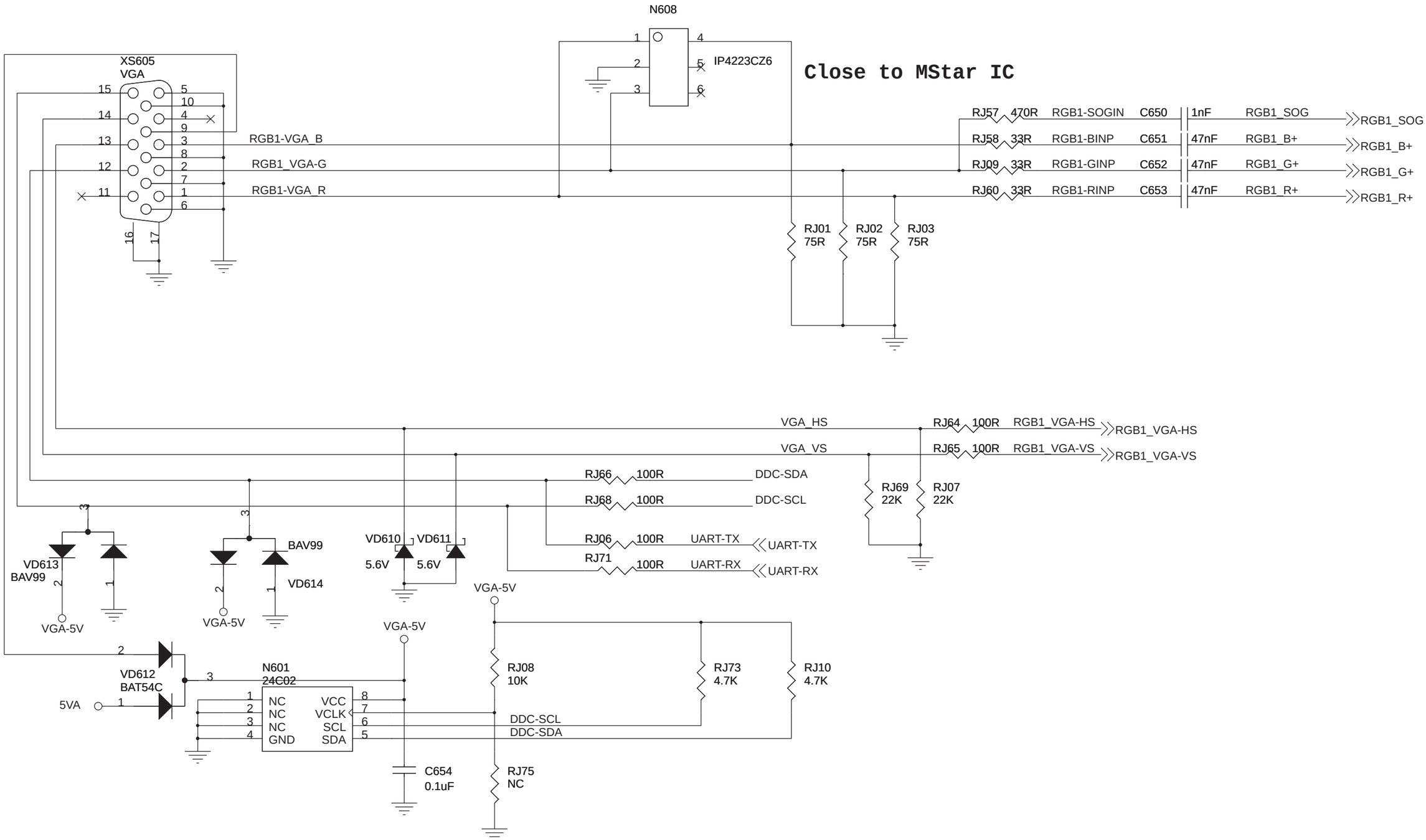




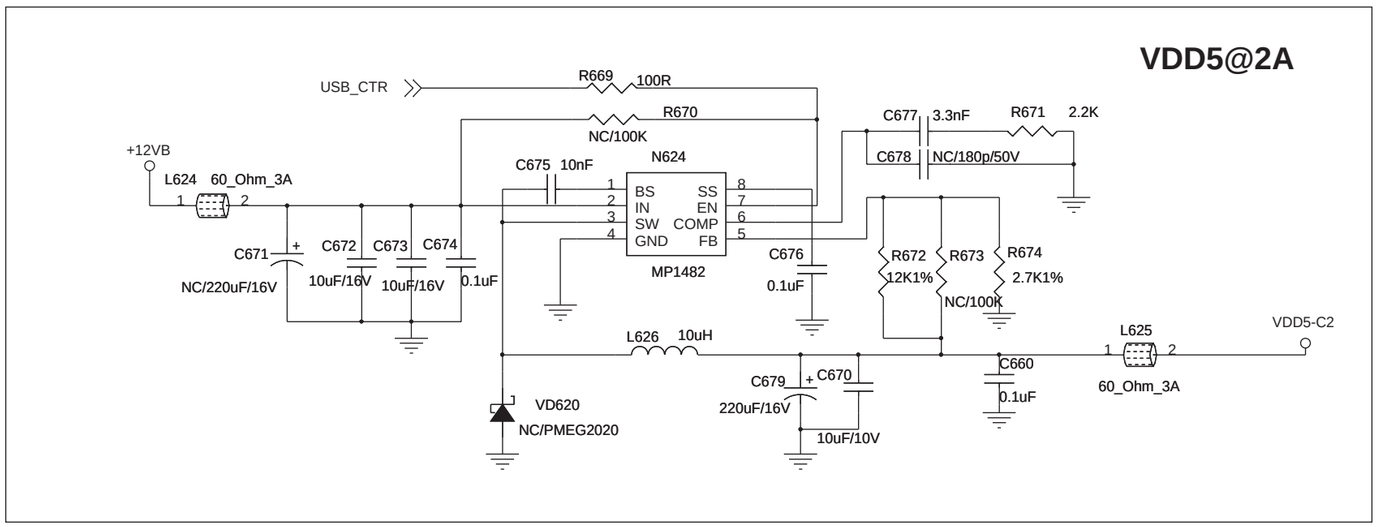


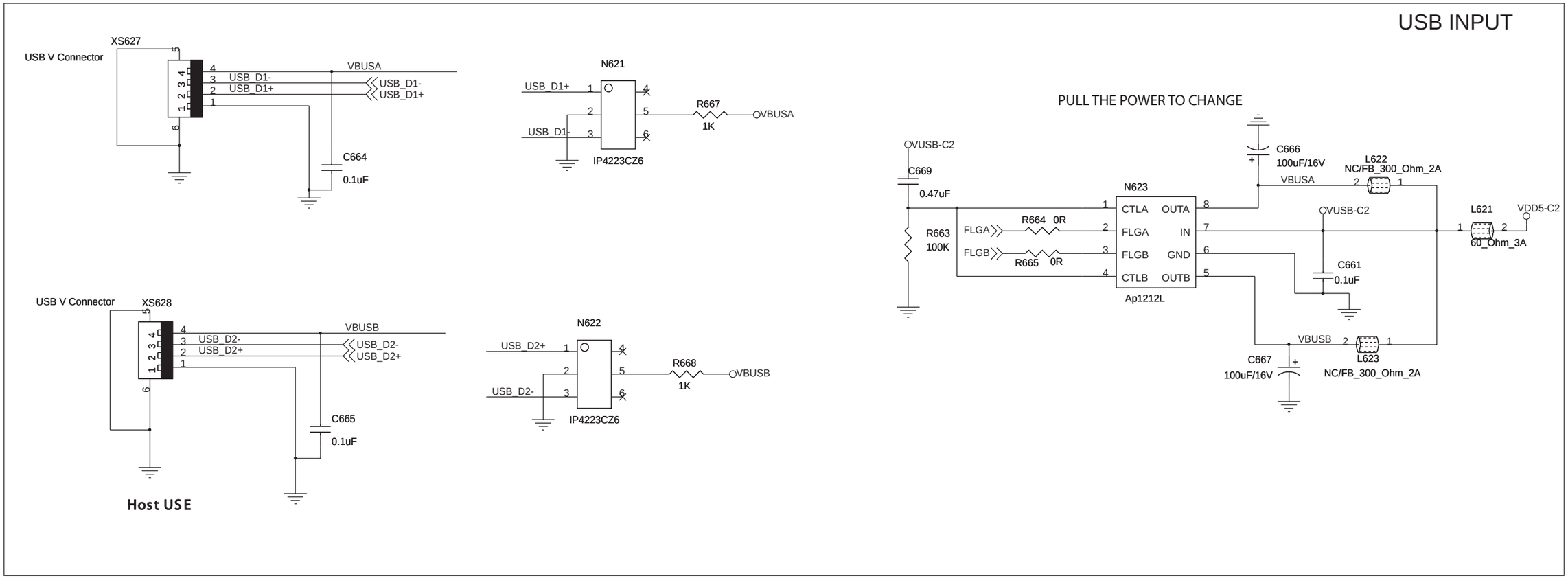


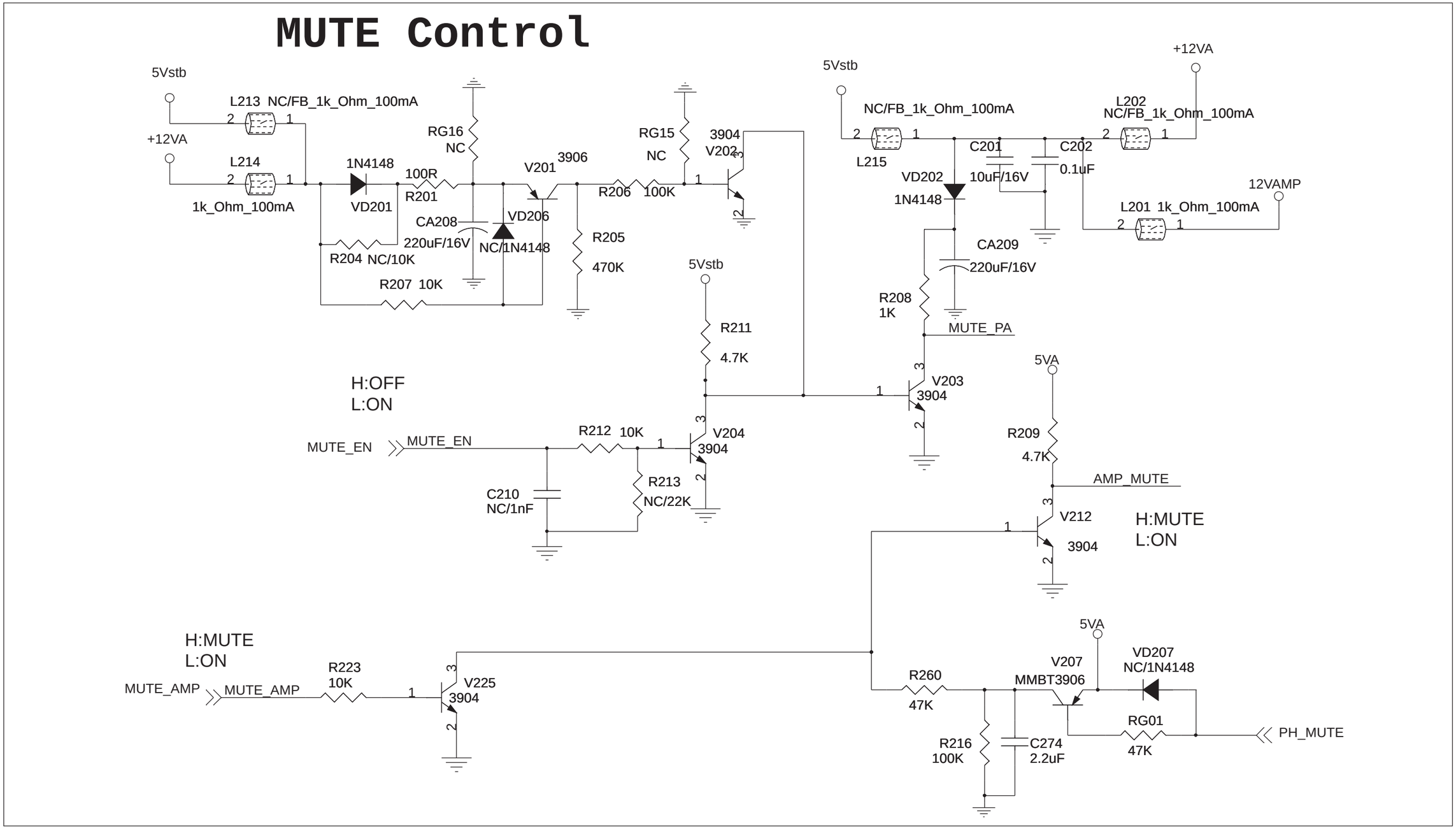
PCI Principal - VGA



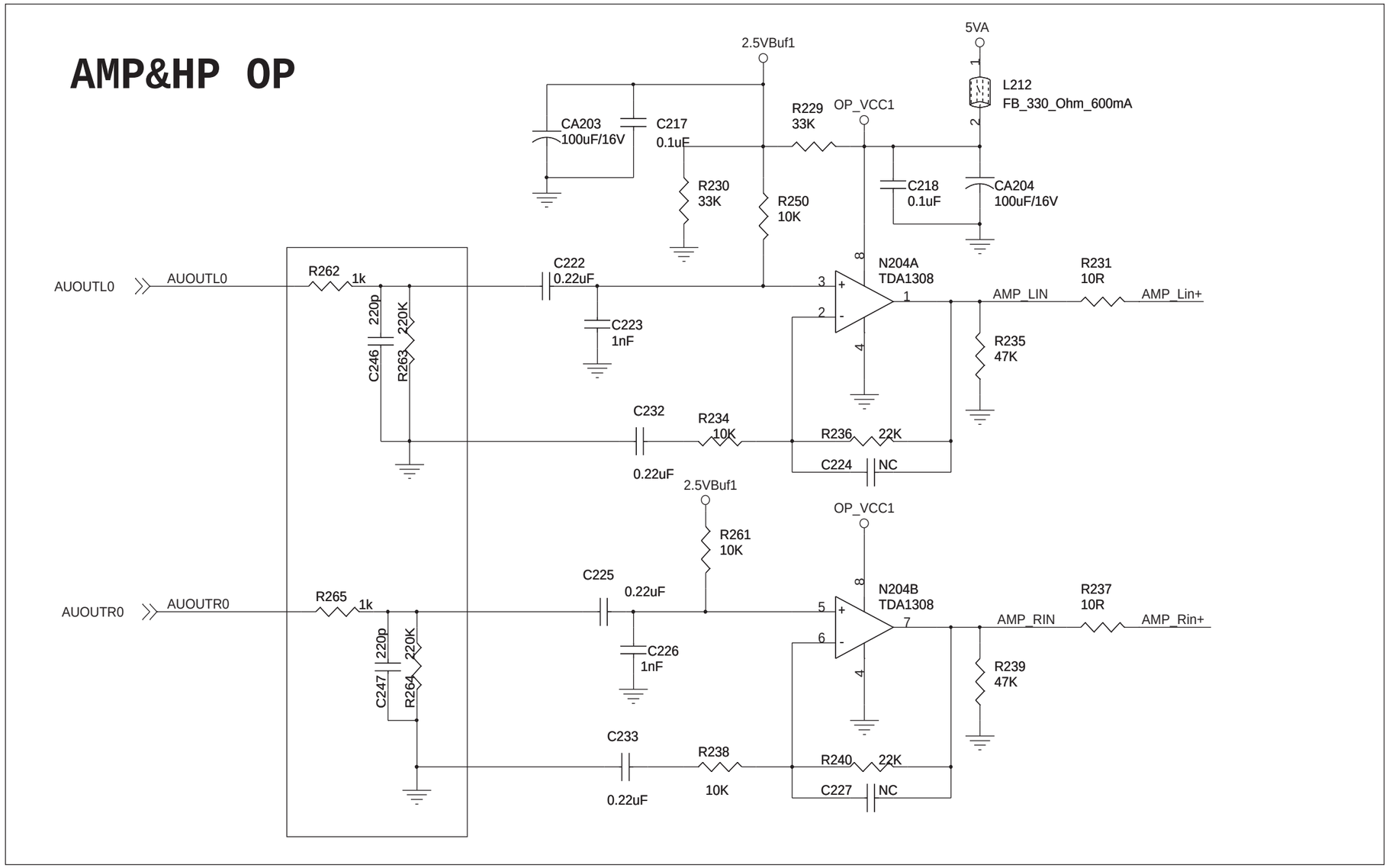
PCI Principal - USB

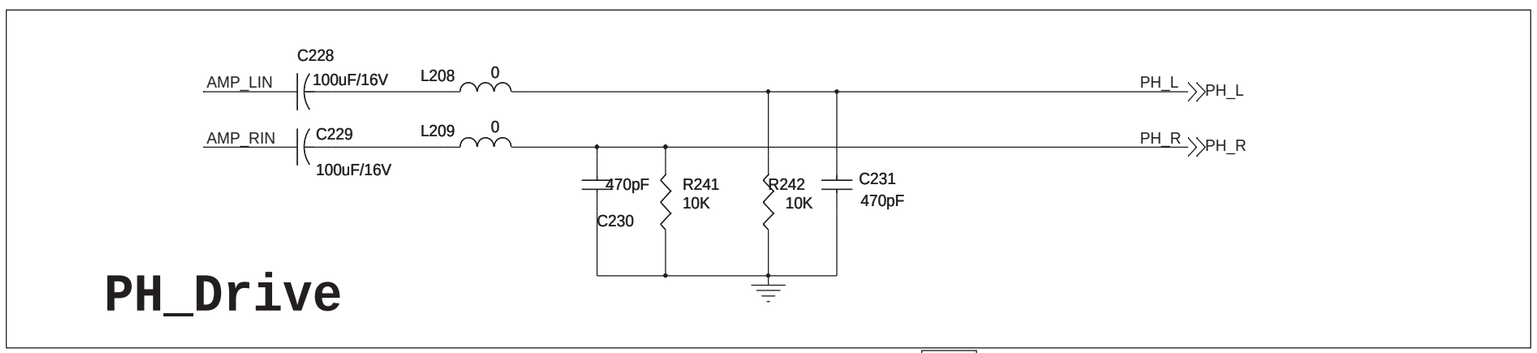





MUTE Control
5Vstb
+12VA
L213 NC/FB_1k_Ohm_100mA
L214
1k_Ohm_100mA
1N4148
VD201
100R
R201
RG16
NC
CA208
220uF/16V
VD206
NC/1N4148
R204 NC/10K
R207 10K
V201
3906
R205
470K
RG15
NC
R206 100K
3904
V202
H:OFF
L:ON
5Vstb
R211
4.7K
V203
3904
MUTE_EN
MUTE_EN
R212 10K
V204
3904
C210
NC/1nF
R213
NC/22K
5Vstb
NC/FB_1k_Ohm_100mA
L215
+12VA
L202
NC/FB_1k_Ohm_100mA
C201
10uF/16V
C202
0.1uF
VD202
1N4148
12VAMP
L201 1k_Ohm_100mA
CA209
220uF/16V
R208
1K
MUTE_PA
5VA
R209
4.7K
AMP_MUTE
V212
3904
H:MUTE
L:ON
H:MUTE
L:ON
MUTE_AMP
MUTE_AMP
R223
10K
V225
3904
5VA
V207
MMBT3906
VD207
NC/1N4148
R260
47K
RG01
47K
PH_MUTE
R216
100K
C274
2.2uF

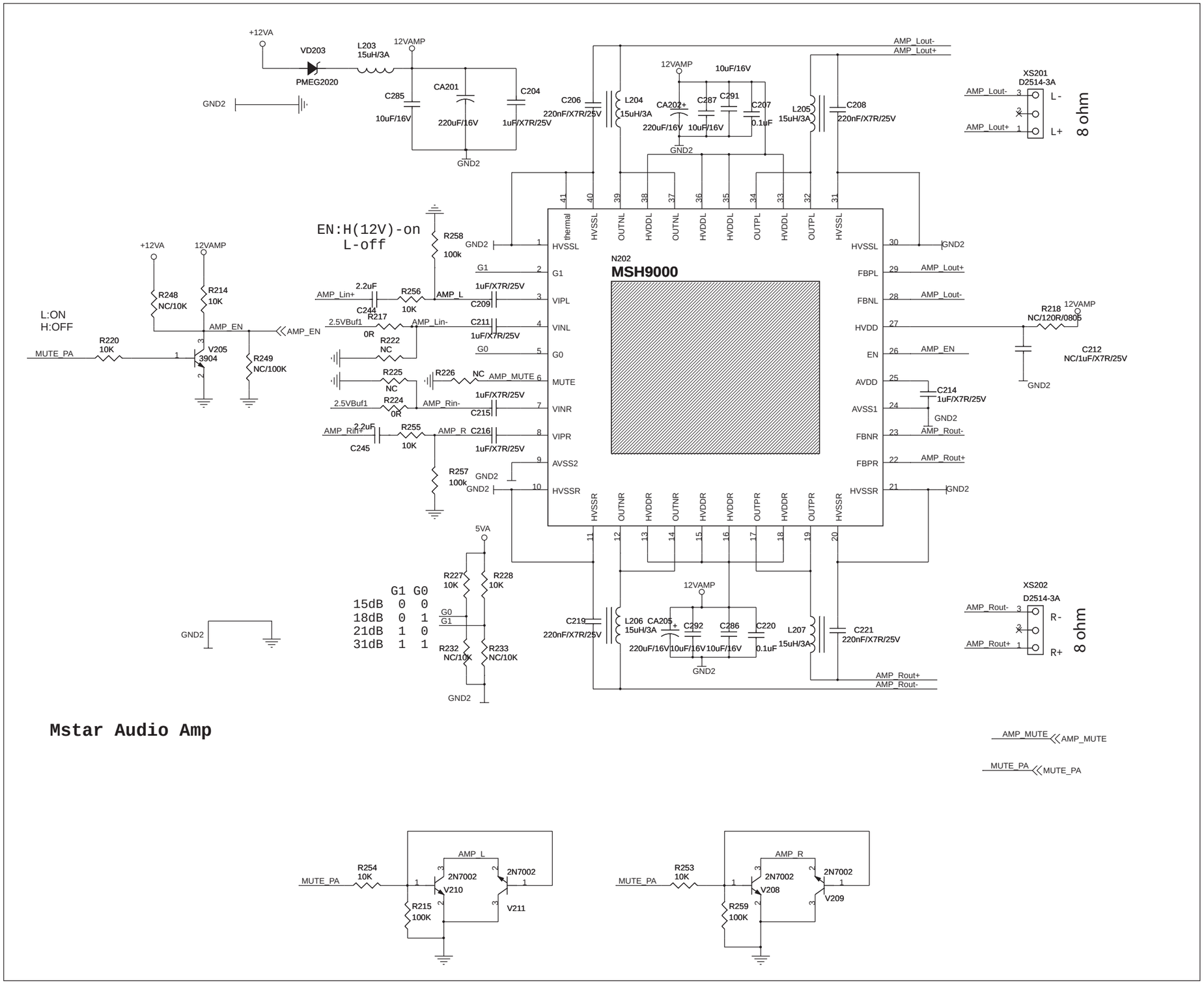
PCI Principal - Amplificador AÚDIO





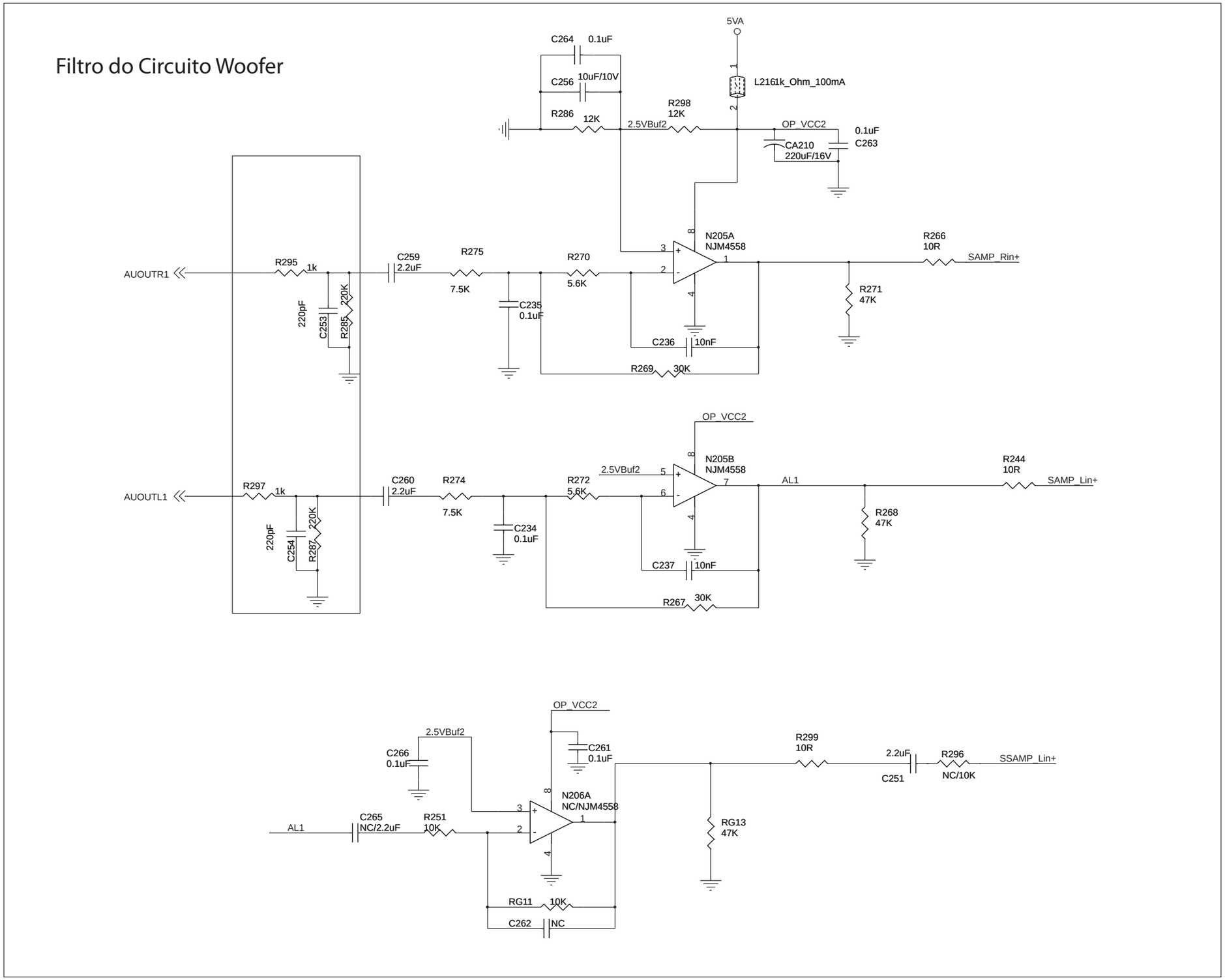
PCI Principal - Amplificador AÚDIO

AMP

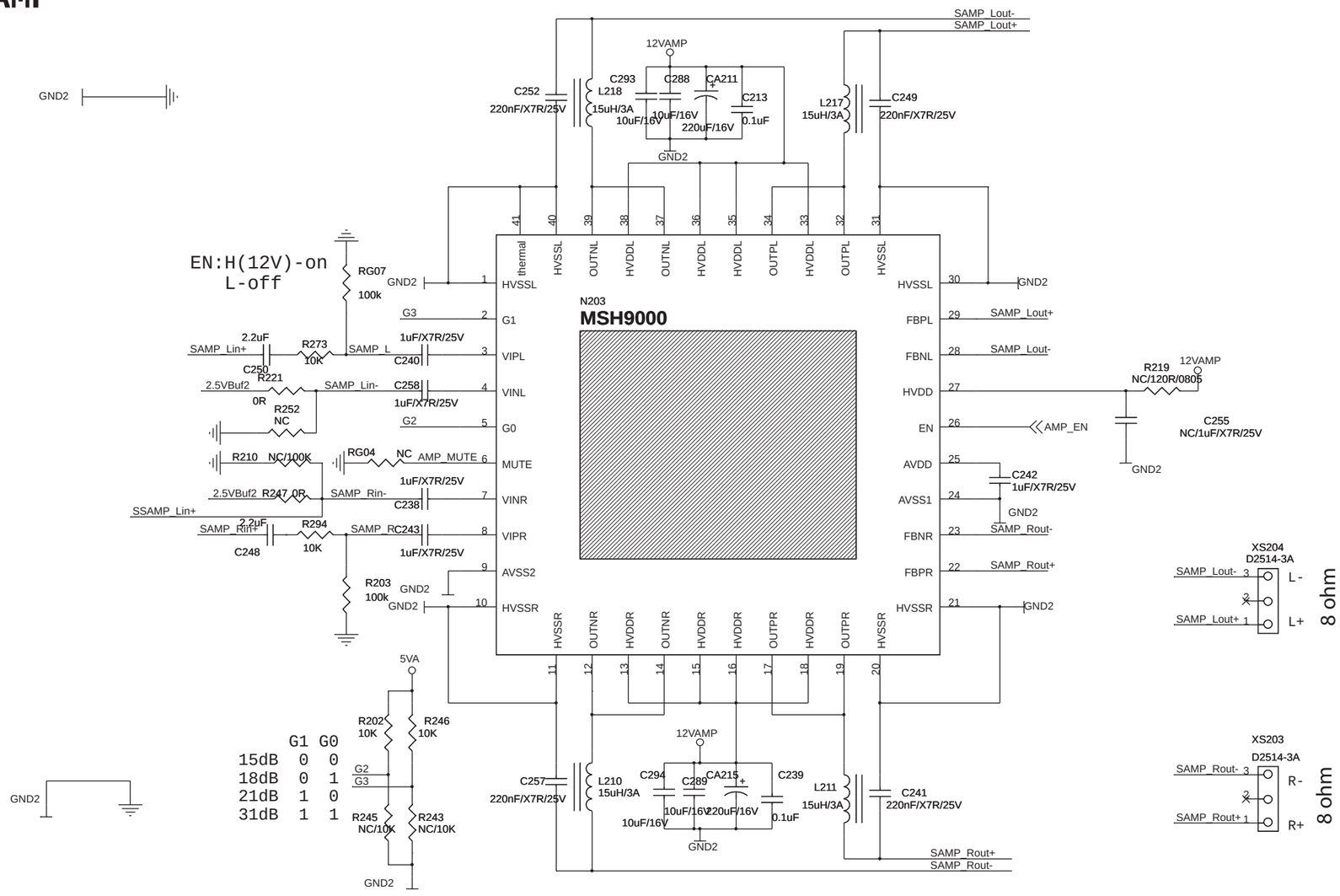


Mstar Audio Amp

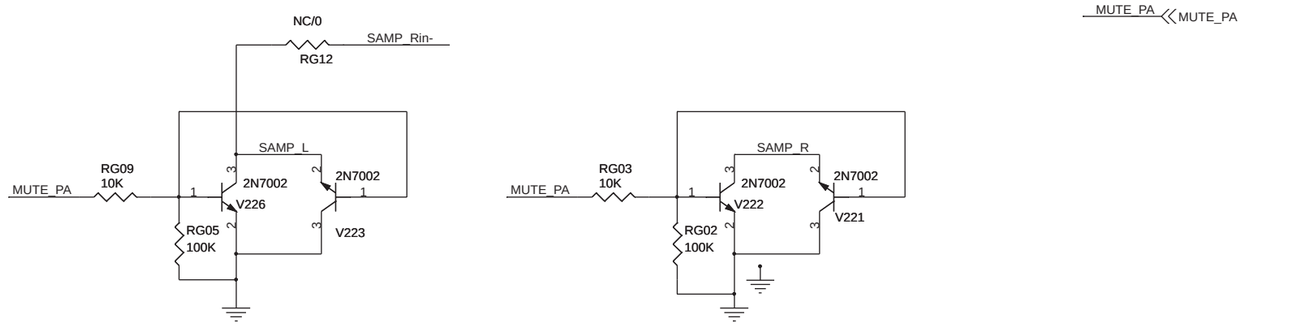
PCI Principal - Amplificador WOOFER



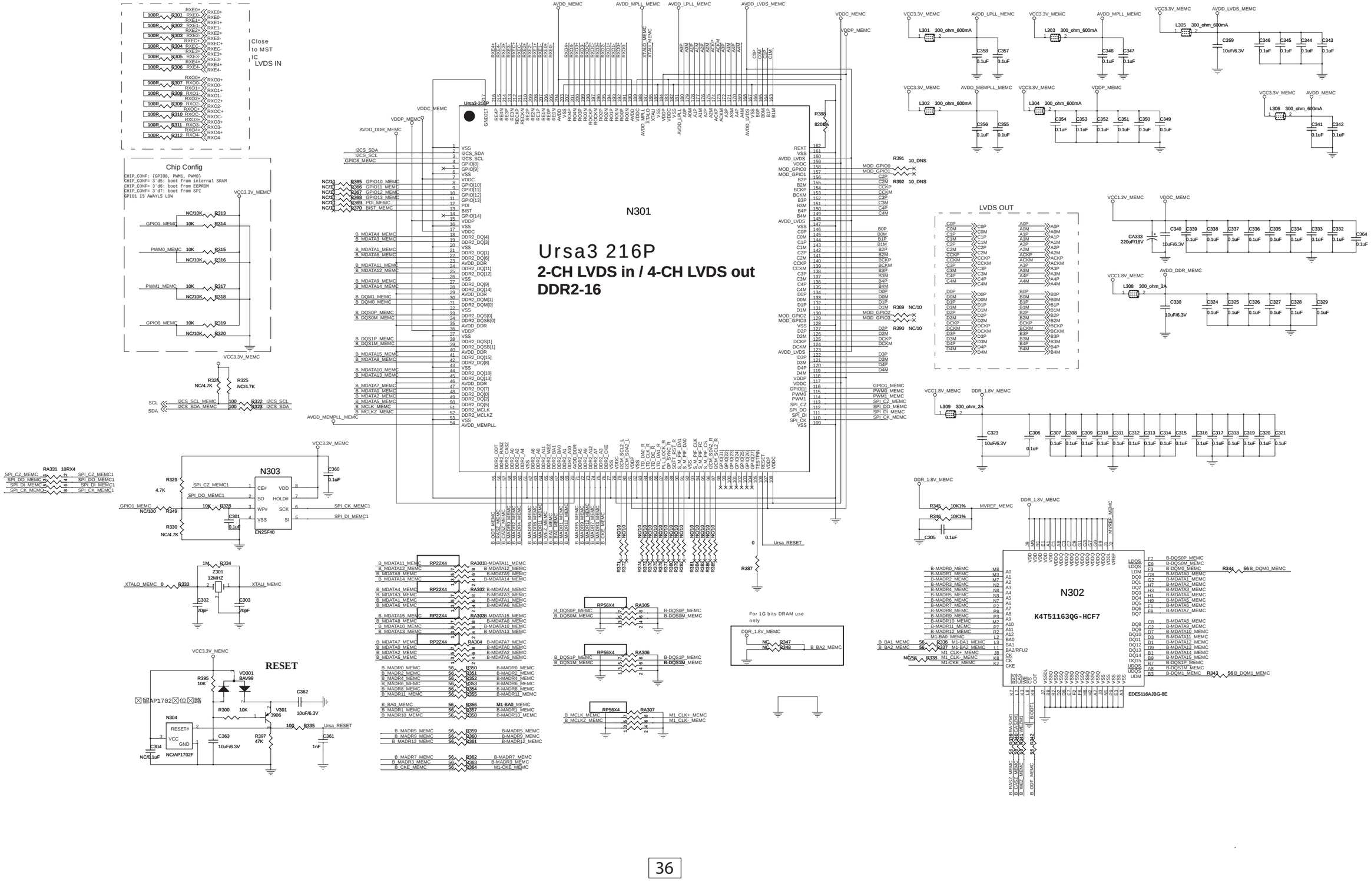
SAMP



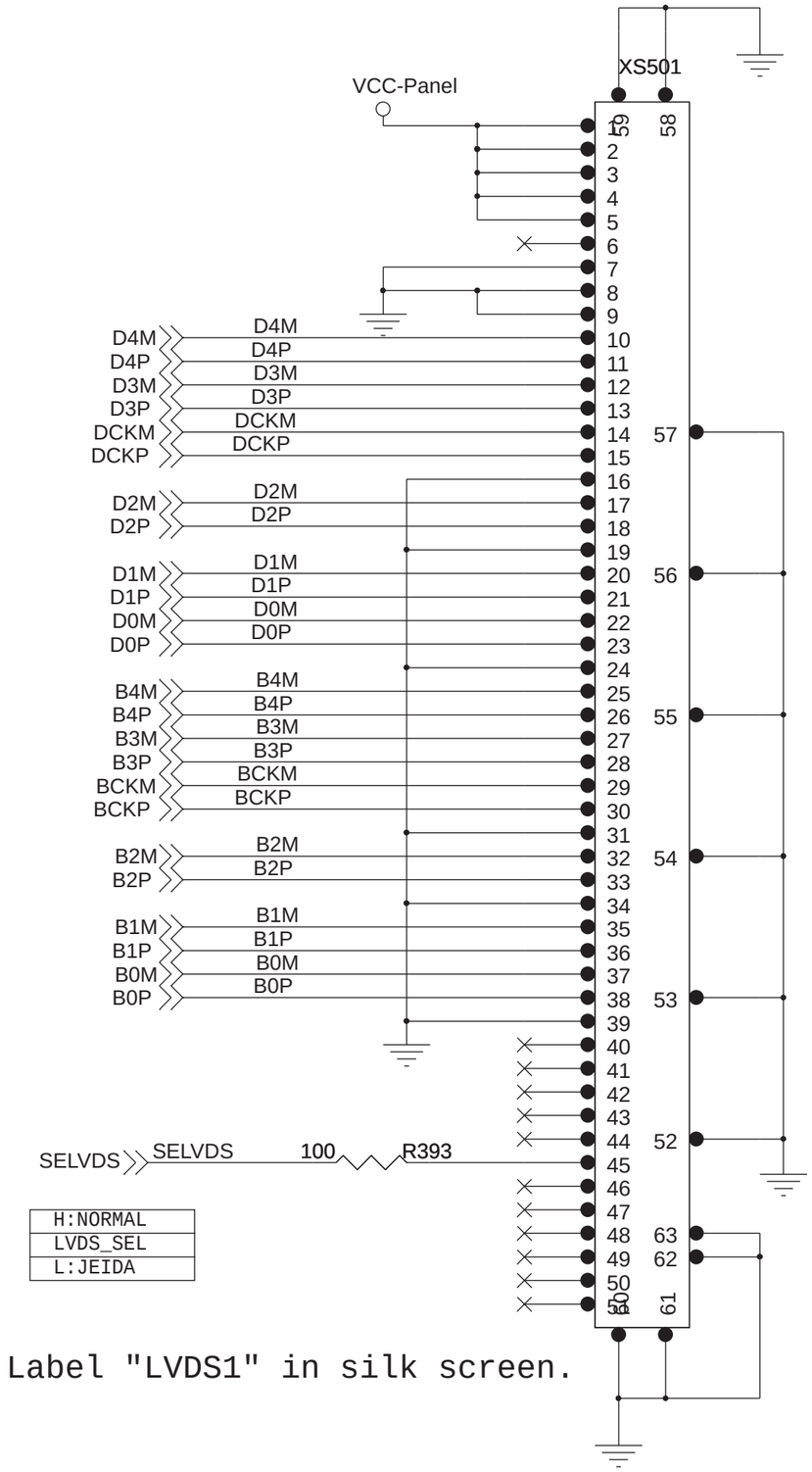
Mstar Audio Amp



PCI Principal - Circuito 120HZ (ME/MC)

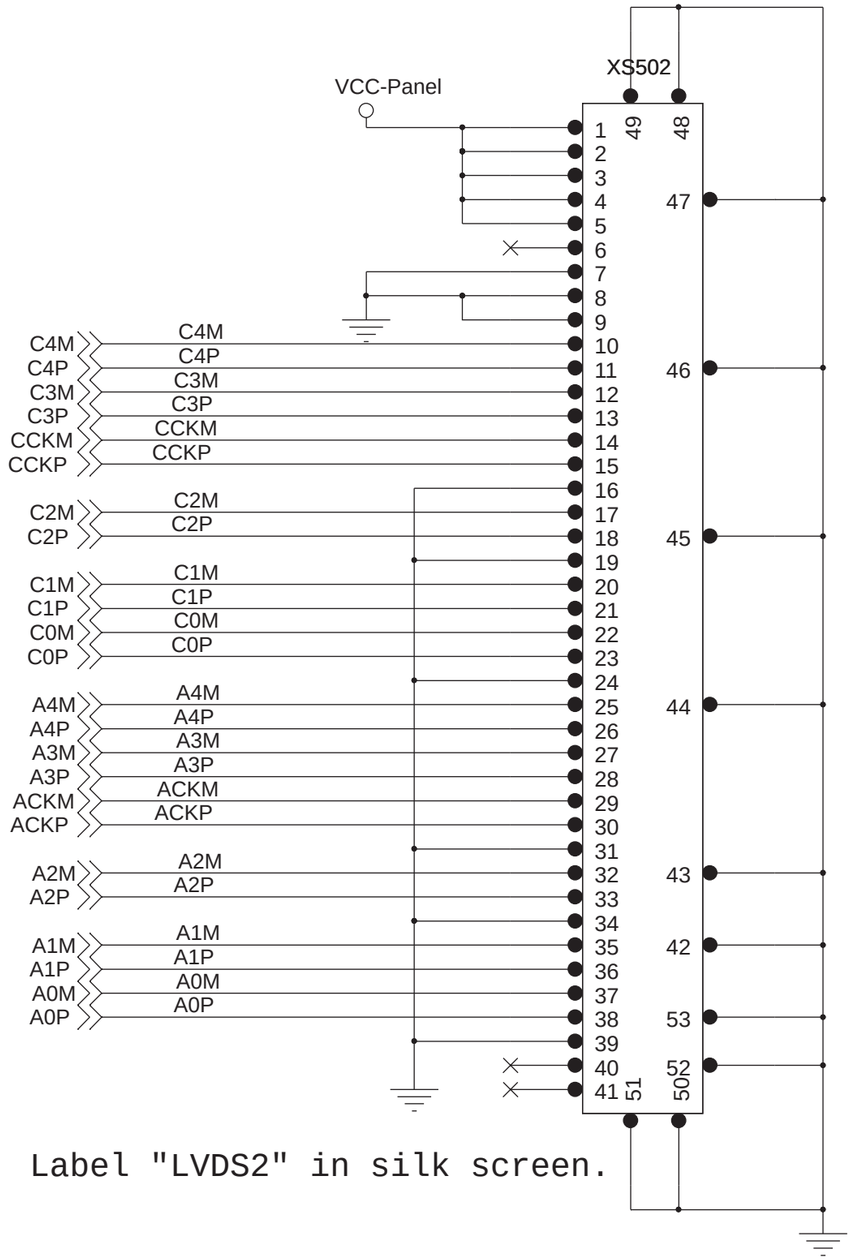


PCI Principal - Conector LVDS LC3251F / LC4051F



Label "LVDS1" in silk screen.

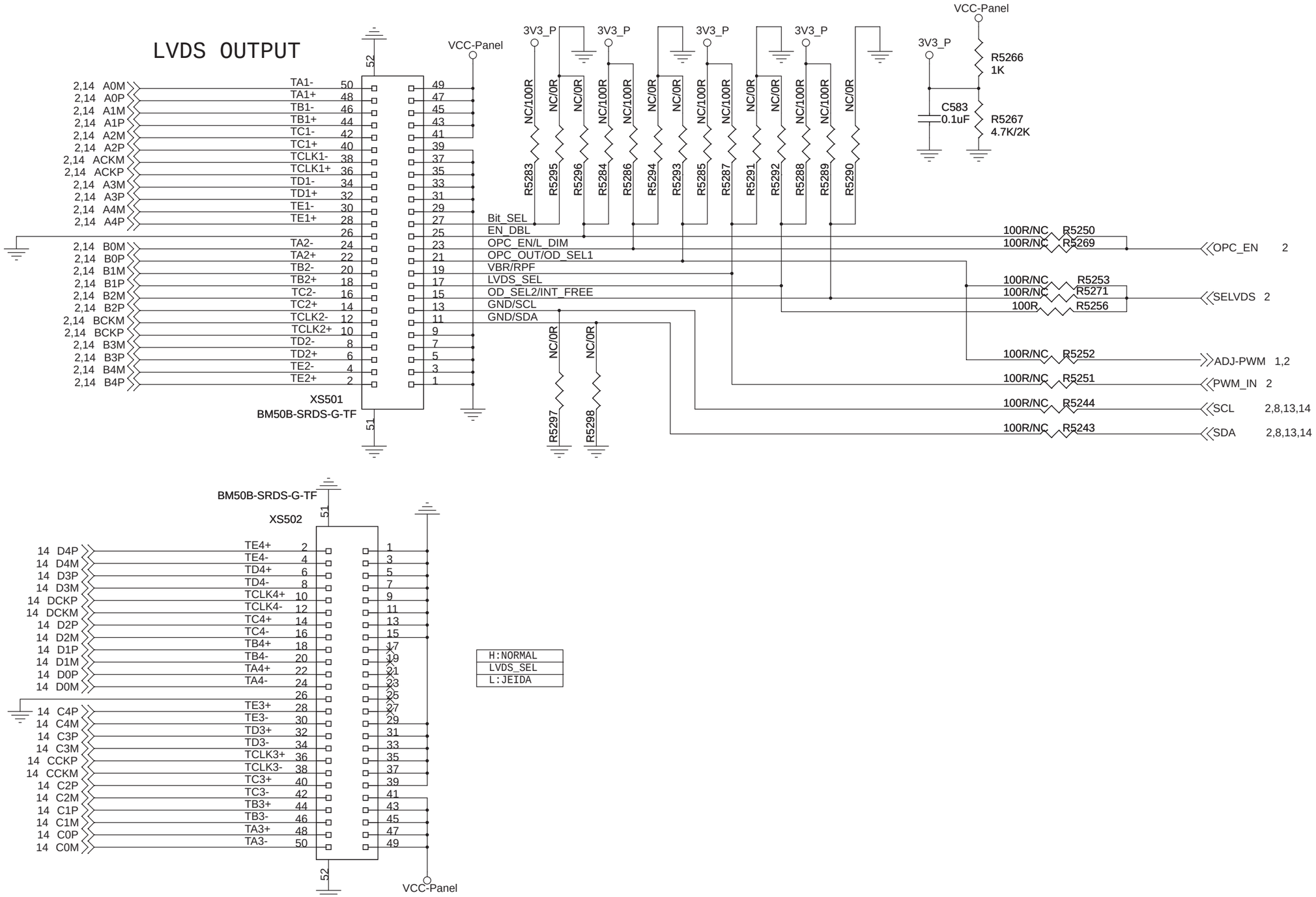
51P-0.5H/LVDS



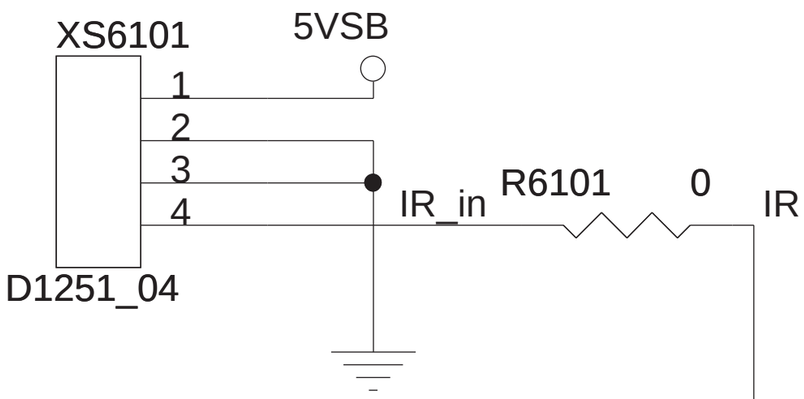
Label "LVDS2" in silk screen.

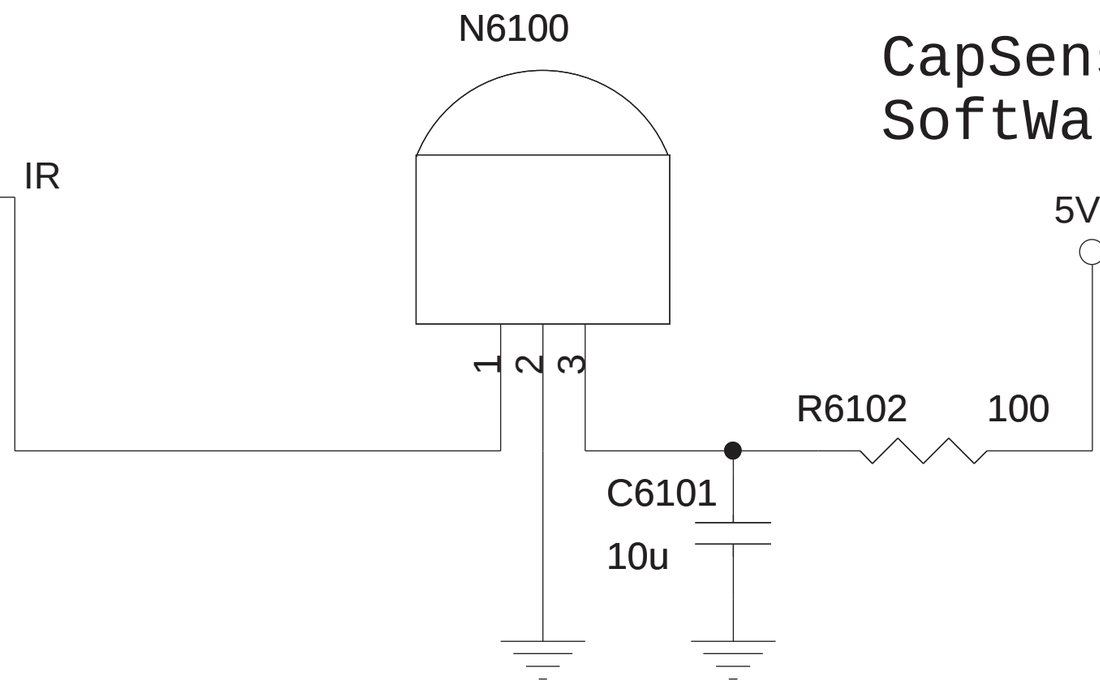
41P-0.5H/LVDS

PCI Principal - Conector LVDS LC4651F / LC5551F

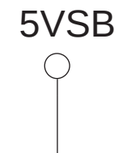


Label "LVDS2" in silk screen.

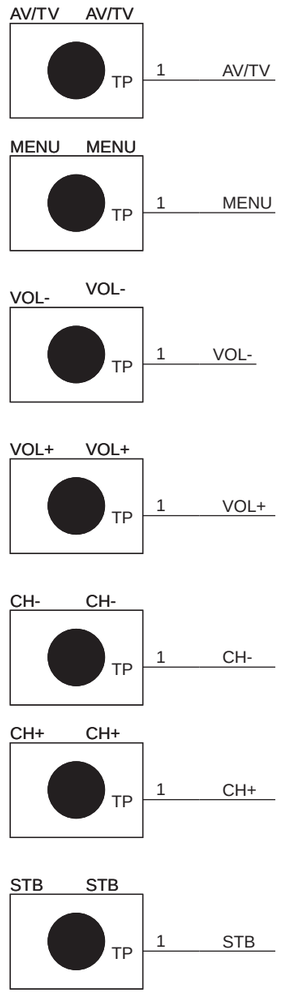


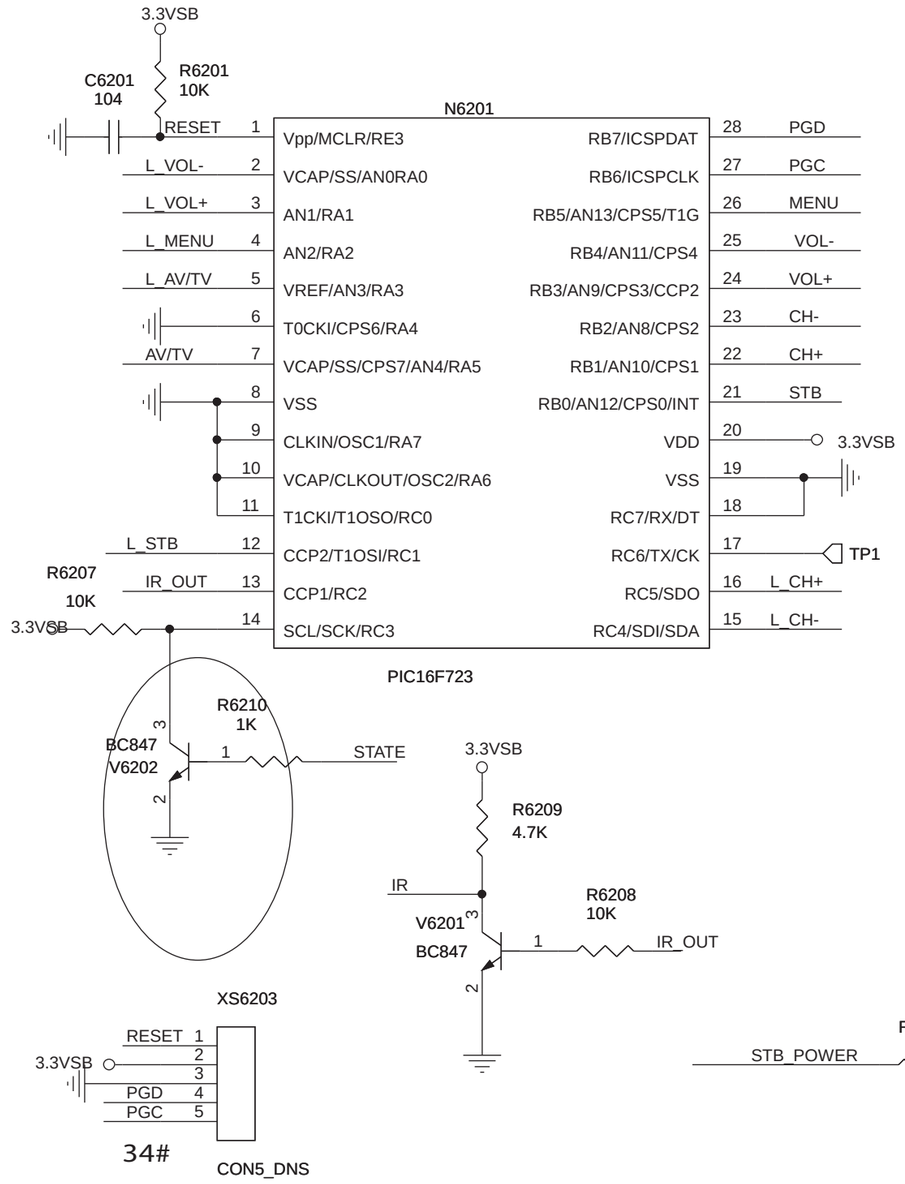


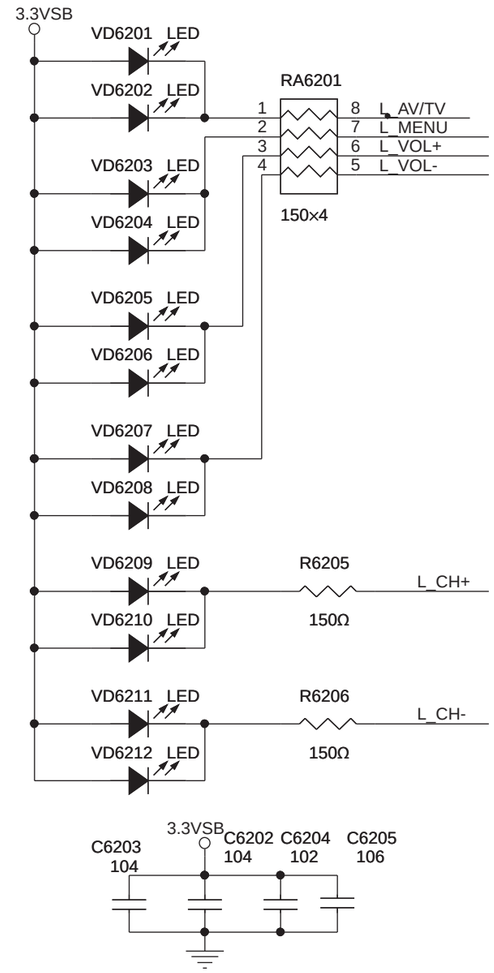
CapSense KEY
SoftWare Update

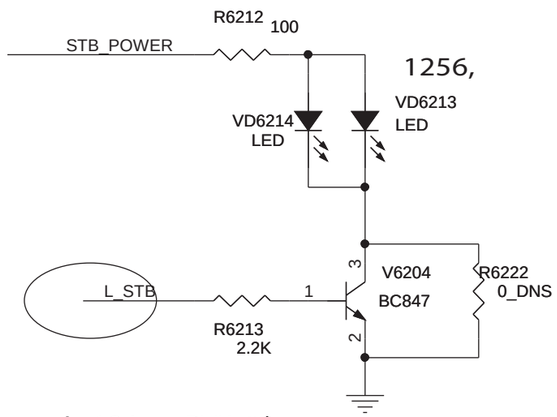


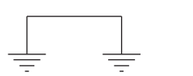
PCI - Teclas

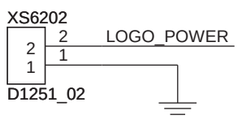

AV/TV AV/TV
TP
1 AV/TV
MENU MENU
TP
1 MENU
VOL- VOL-
TP
1 VOL-
VOL+ VOL+
TP
1 VOL+
CH- CH-
TP
1 CH-
CH+ CH+
TP
1 CH+
STB STB
TP
1 STB

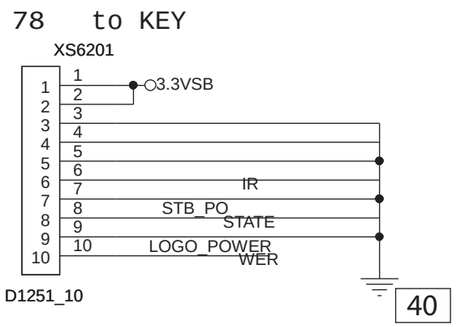

3.3VSB
C6201
104
R6201
10K
N6201
RESET 1
L_VOL- 2
L_VOL+ 3
L_MENU 4
L_AV/TV 5
6
AV/TV 7
8
9
10
11
L_STB 12
R6207
IR_OUT 13
10K
3.3VSB
14
Vpp/MCLR/RE3
VCAP/SS/AN0RA0
AN1/RA1
AN2/RA2
VREF/AN3/RA3
T0CKI/CPS6/RA4
VCAP/SS/CPS7/AN4/RA5
VSS
CLKIN/OSC1/RA7
VCAP/CLKOUT/OSC2/RA6
T1CKI/T1OSO/RC0
CCP2/T1OSI/RC1
CCP1/RC2
SCL/SCK/RC3
RB7/ICSPDAT 28 PGD
RB6/ICSPCLK 27 PGC
RB5/AN13/CPS5/T1G 26 MENU
RB4/AN11/CPS4 25 VOL-
RB3/AN9/CPS3/CCP2 24 VOL+
RB2/AN8/CPS2 23 CH-
RB1/AN10/CPS1 22 CH+
RB0/AN12/CPS0/INT 21 STB
VDD 20 3.3VSB
VSS 19
RC7/RX/DT 18
RC6/TX/CK 17 TP1
RC5/SDO 16 L_CH+
RC4/SDI/SDA 15 L_CH-
PIC16F723
R6210
1K
BC847
V6202
STATE
3.3VSB
R6209
4.7K
IR
R6208
10K
V6201
BC847
IR_OUT
XS6203
RESET 1
3.3VSB
2
3
PGD 4
PGC 5
34#
CON5_DNS


3.3VSB
VD6201 LED
VD6202 LED
VD6203 LED
VD6204 LED
VD6205 LED
VD6206 LED
VD6207 LED
VD6208 LED
RA6201
1 8 L_AV/TV
2 7 L_MENU
3 6 L_VOL+
4 5 L_VOL-
150×4
VD6209 LED
VD6210 LED
R6205
150Ω
L_CH+
VD6211 LED
VD6212 LED
R6206
150Ω
L_CH-
3.3VSB
C6203
104
C6202
104
C6204
102
C6205
106


R6212
100
STB_POWER
1256,
VD6214
LED
VD6213
LED
L_STB
1
R6213
2.2K
V6204
BC847
R6222
0_DNS

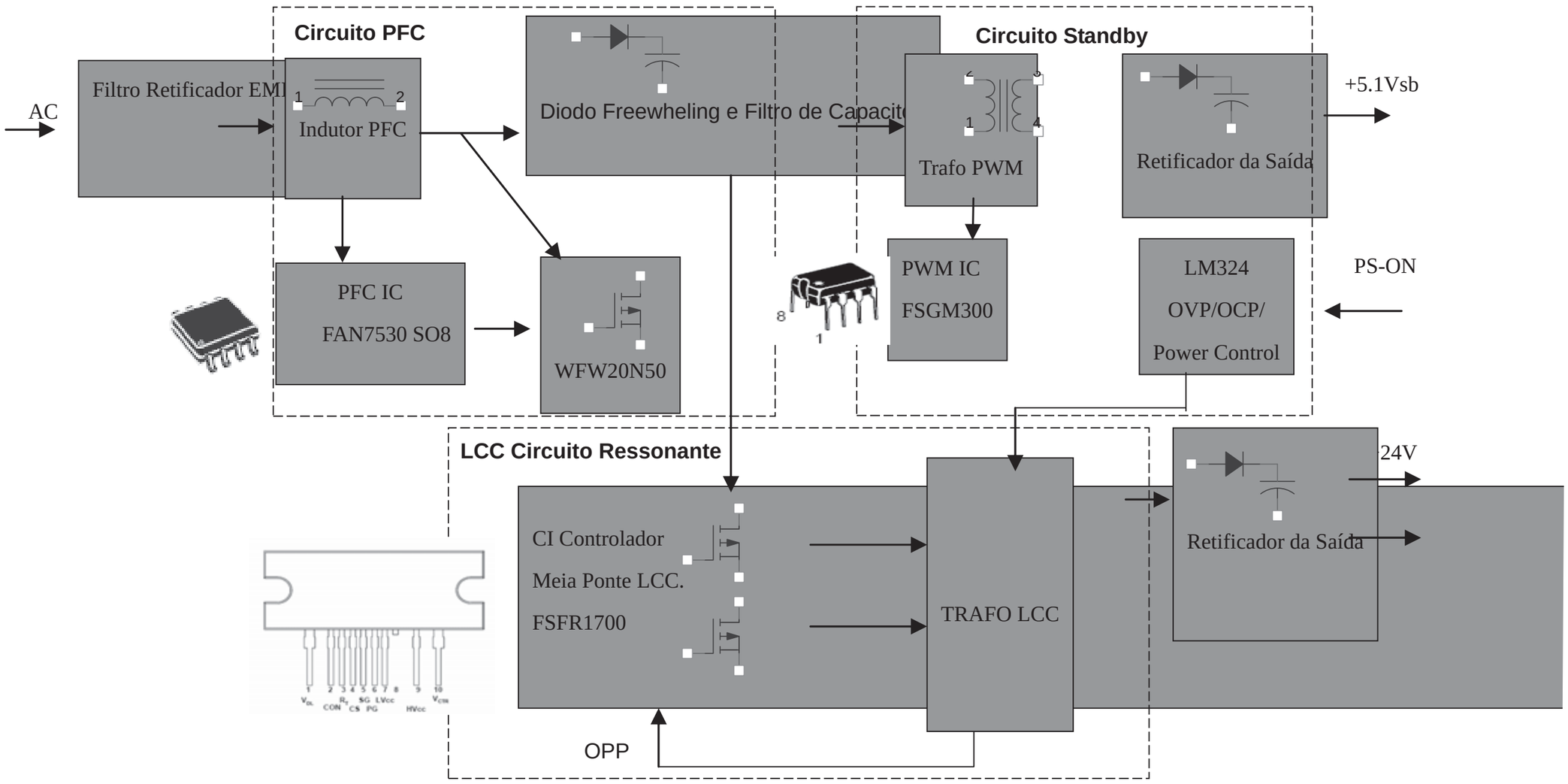



XS6202
2
1
2
1
LOGO_POWER
D1251_02


78 to KEY
XS6201
1
2
3
4
5
6
7
8
9
10
3.3VSB
IR
STB_PO
STATE
LOGO_POWER
WER
D1251_10

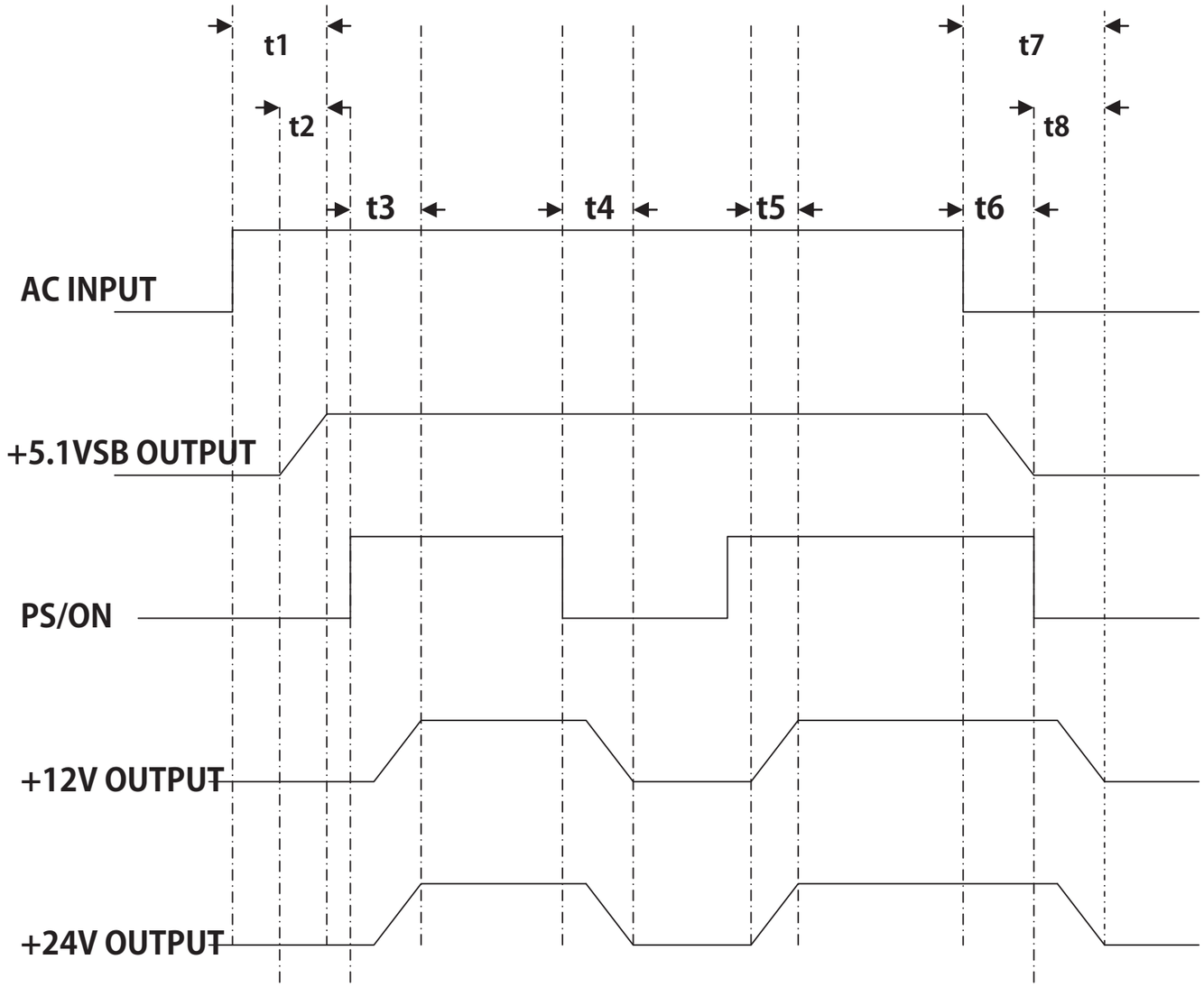
pin12! PWM"#$
%& R6213' V6204'()*+,-.$
%& R6222'/012,$

DIAGRAMA EM BLOCOS DA PLACA DA FONTE.



PFC = Power Factor Correction (Correção do fator de potência).

Timing da Fonte :



Nota： **t1** – Tempo de boot do 5,1V， **t2** – Tempo de subida do 5,1V， **t3** – Tempo de boot do 12V e 24V apartir de PS/ON， **t4** – Tempo de desl 12V e 24V apartir de PS/ON， **t5** – Tempo de subida do 12V e 24V， **t6** – Tempo de queda do 5,1V apartir de AC Off， **t7** - Tempo de queda do 12V e 24V apartir de AC Off.

Obs: (PSON – Controle Remoto On/Off).

Conector LC3251F

Conector DC

XS958, 5 Pinos

Pin-No.	Name	Description
1	+12V	12 Vdc
2	GND	GND
3	+5V	5 Vdc
4	GND	GND
5	ON/OFF	SMPS ON/OFF Control

Conector Backlight

XS956, 4 Pinos

Pin-No.	Name	Description
1	SEL/NC	SEL/NC
2	BKLT_EN	B/L ON/OFF
3	PWM/ADIM	B/L Brightness
4	GND	GND
5	LAMP_STATE	STATE

Conector de Saída

XS957, 14 Pinos

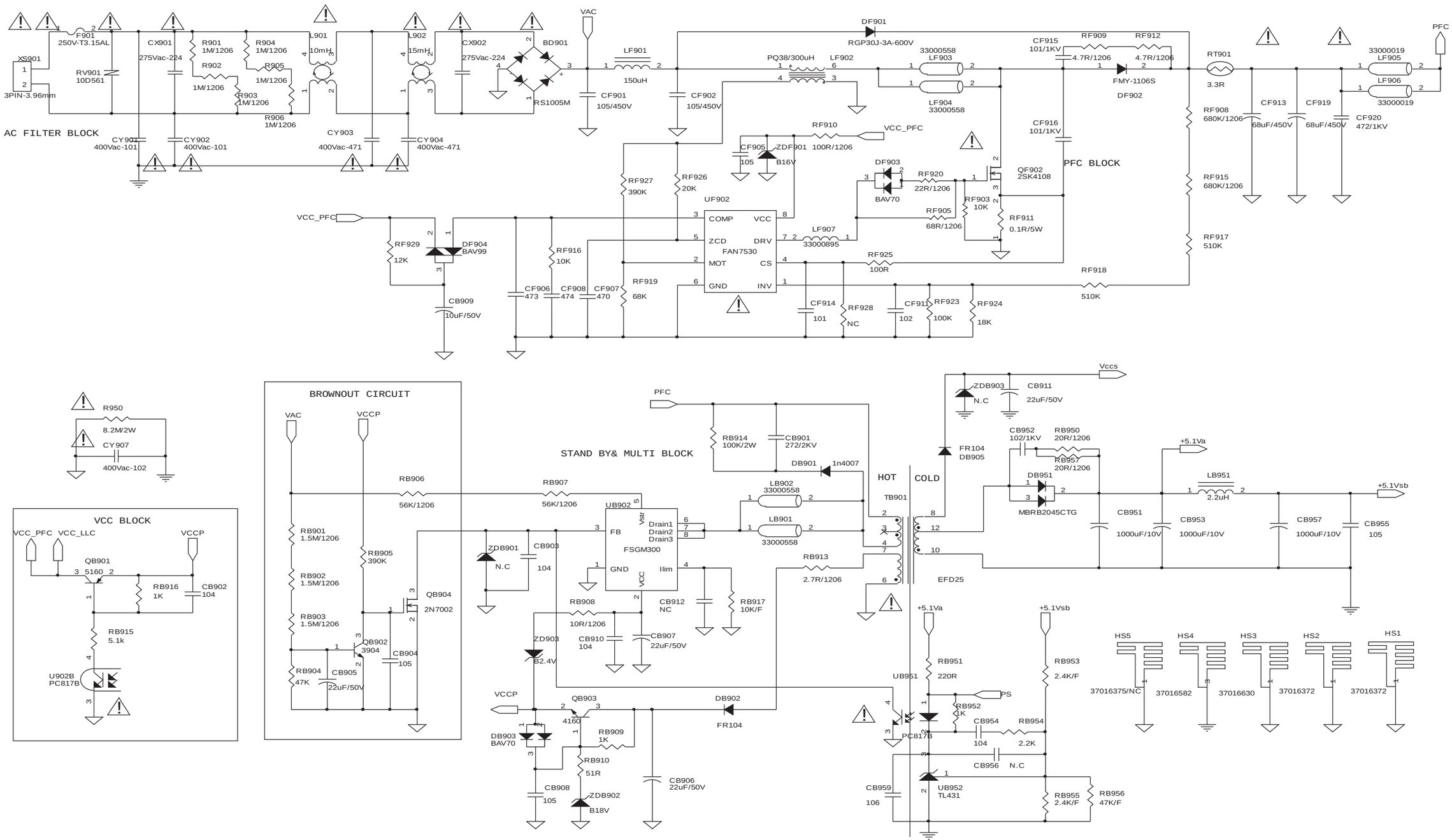
Pin-No.	Name	Description
1	+24V	24 Vdc
2	+24V	24 Vdc
3	+24V	24 Vdc
4	+24V	24 Vdc
5	+24V	24 Vdc
6	GND	GND
7	GND	GND
8	GND	GND
9	GND	GND
10	GND	GND
11	SEL/NC	SEL/NC
12	BKLT_EN	B/L ON/OFF
13	PWM/ADIM	B/L Brightness
14	LAMP_STATE	STATE

Conector LC4051F e LC4651F

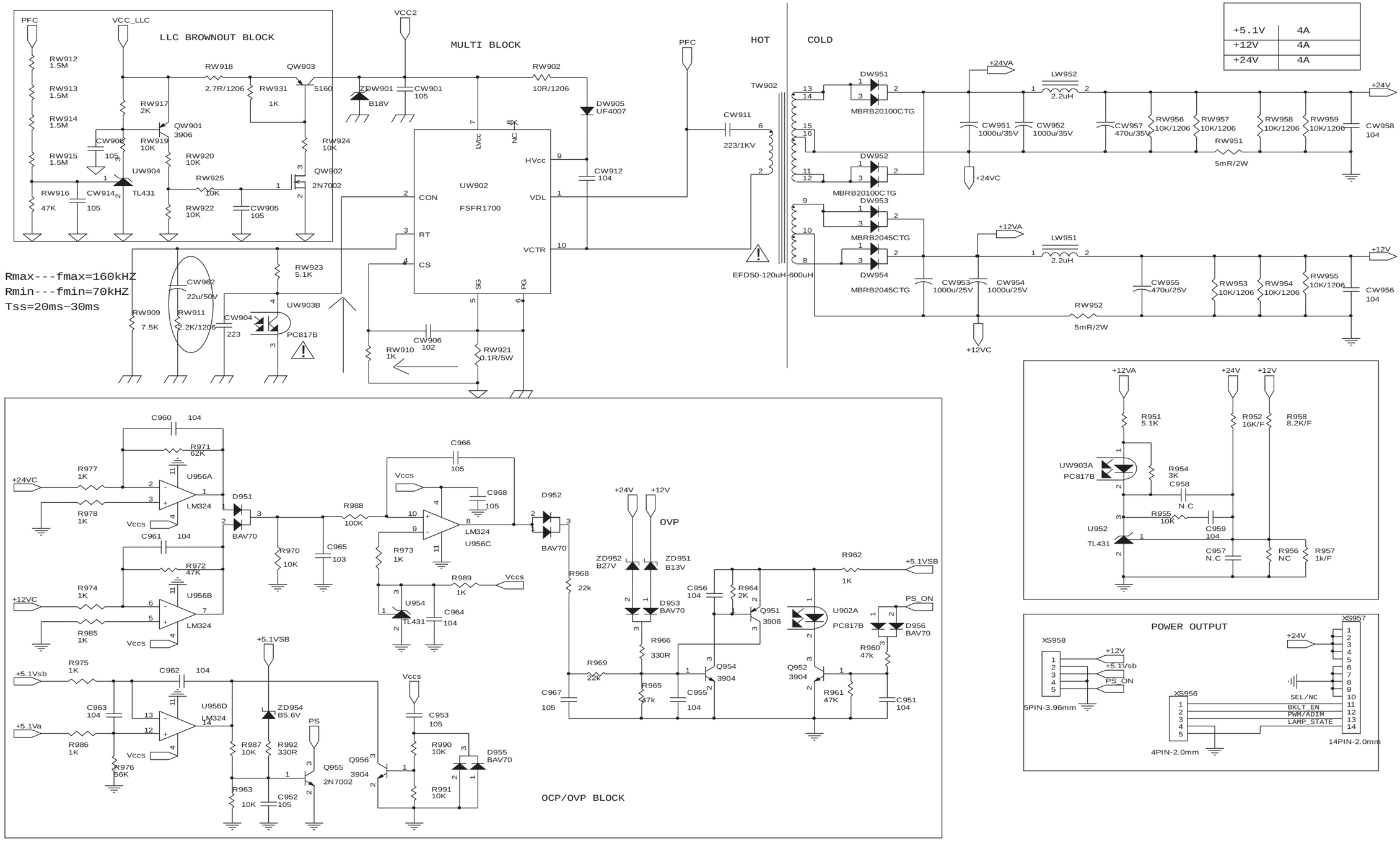
Connector Name	Pin-No.	Pin Name
DC	Pin 1	GND
	Pin 2	+12V
	Pin 3	+12V
	Pin 4	GND
	Pin 5	+5V.1sb
	Pin 6	GND
	Pin 7	PS/on
Backlight	Pin 1	NC
	Pin 2	BL_ON
	Pin 3	PWM/ADIM
	Pin 4	GND
	Pin 5	LAMP_STATE
Power	Pin 1	+24V
	Pin 2	+24V
	Pin 3	+24V
	Pin 4	+24V
	Pin 5	+24V
	Pin 6	GND
	Pin 7	GND
	Pin 8	GND
	Pin 9	GND
	Pin 10	GND
	Pin 11	NC
	Pin 12	BL_ON
	Pin 13	PWM/ADIM
	Pin 14	LAMP_STATE

ESQUEMA ELÉTRICO LC3251F

Circuito Standby e PFC.



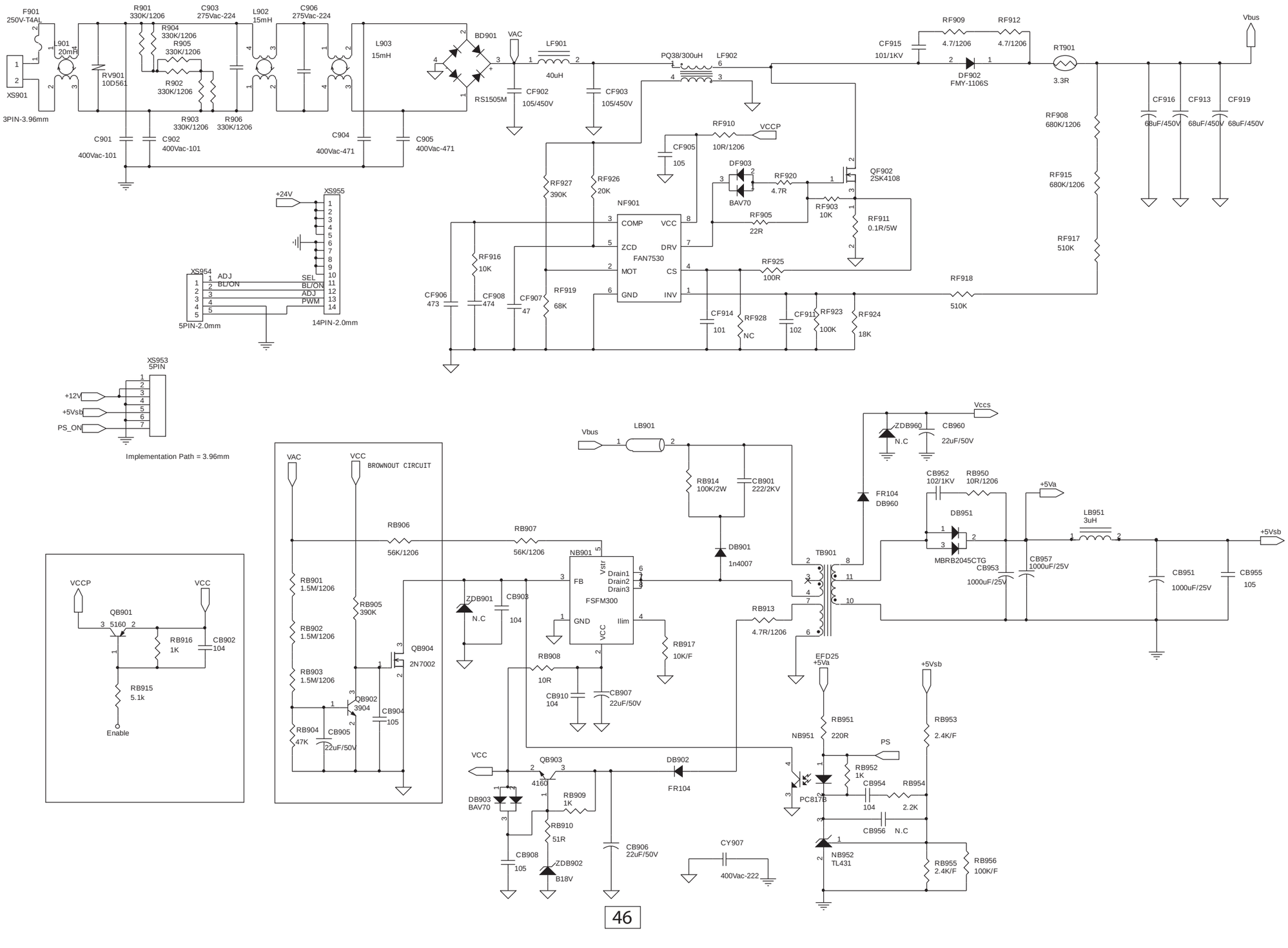
Circuito PWM (DC-DC)



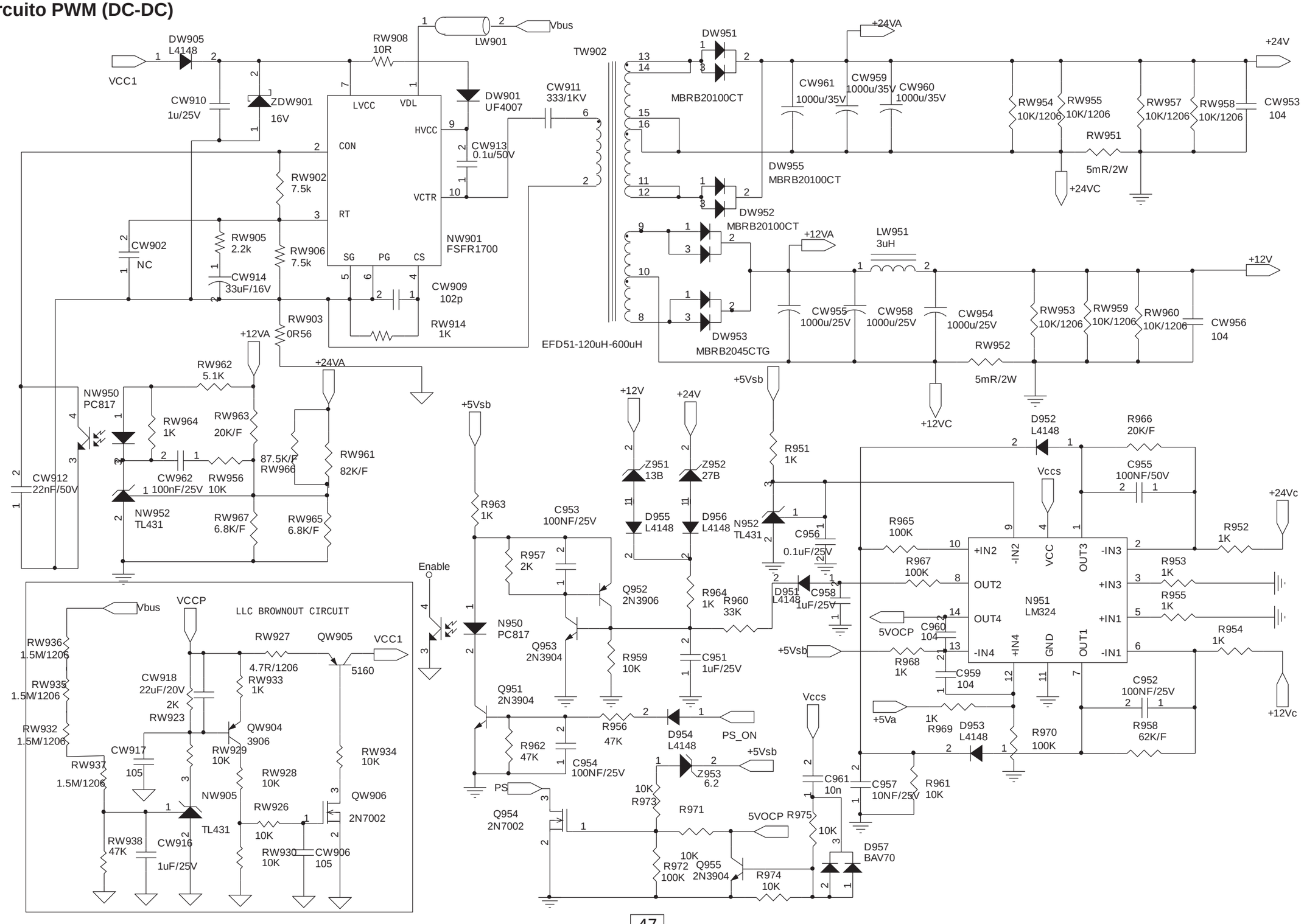
PCI Fonte - LC4051F e LC4651F

ESQUEMA ELÉTRICO LC4051F e LC4651F.

Circuito Standby e PFC

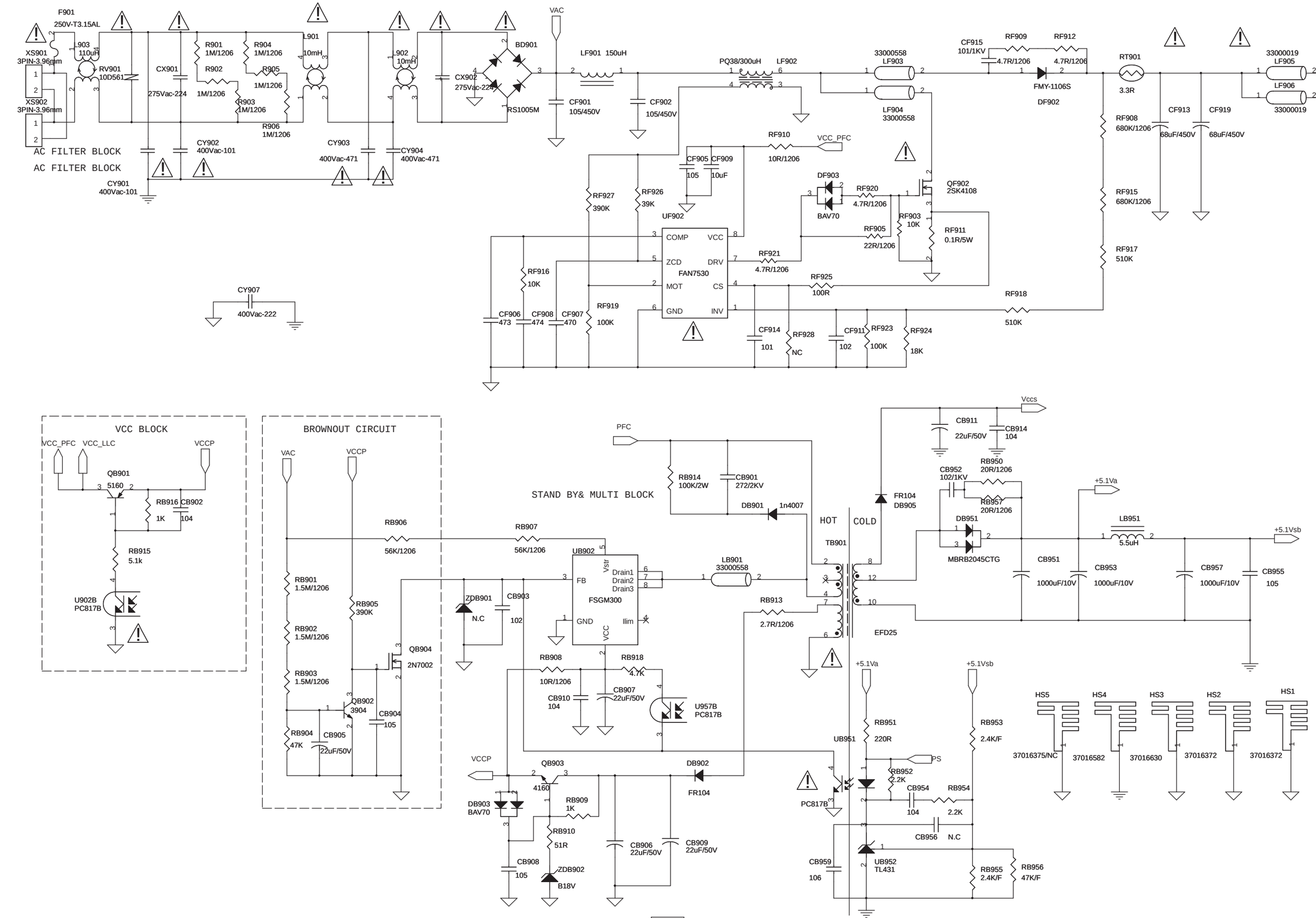


Circuito PWM (DC-DC)



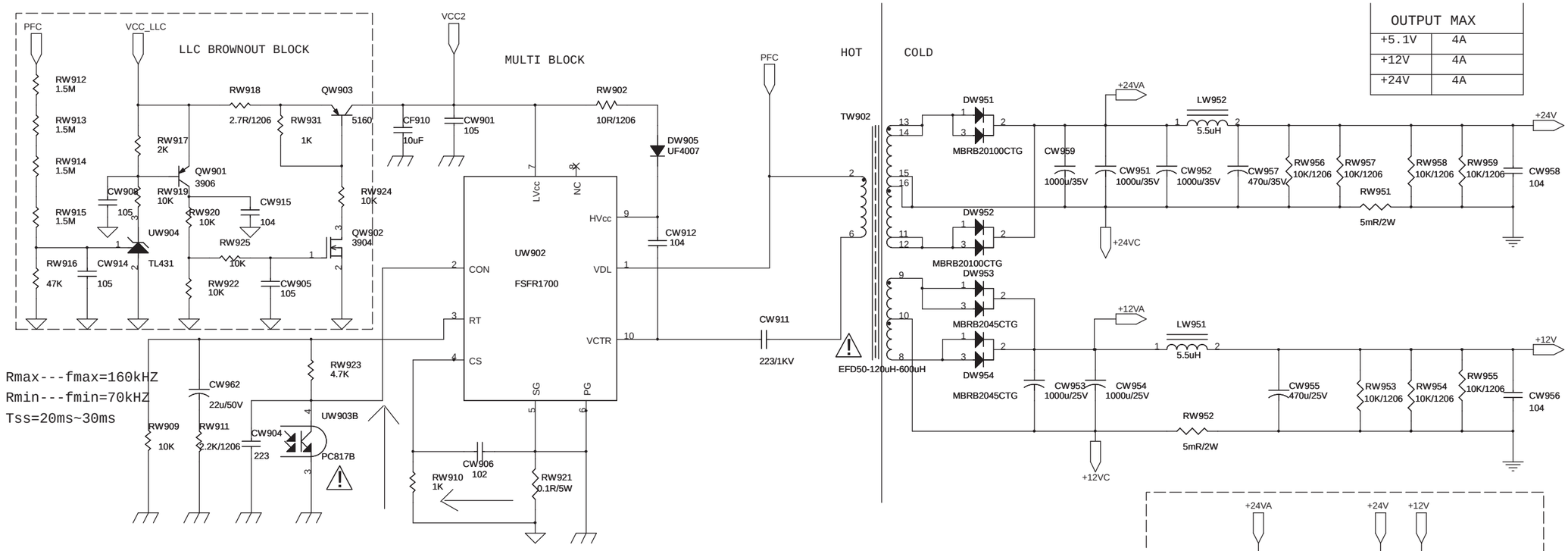
ESQUEMAS ELÉTRICOS

PCI Fonte - LC5551F

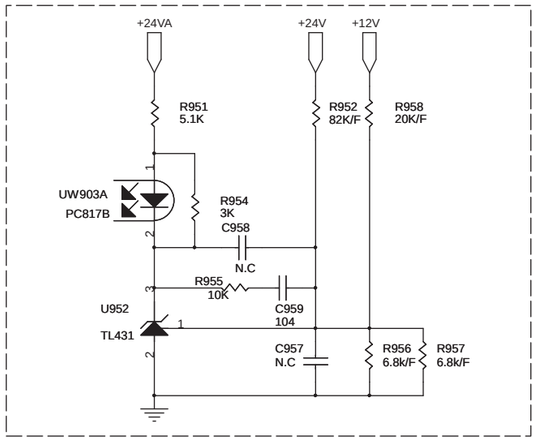


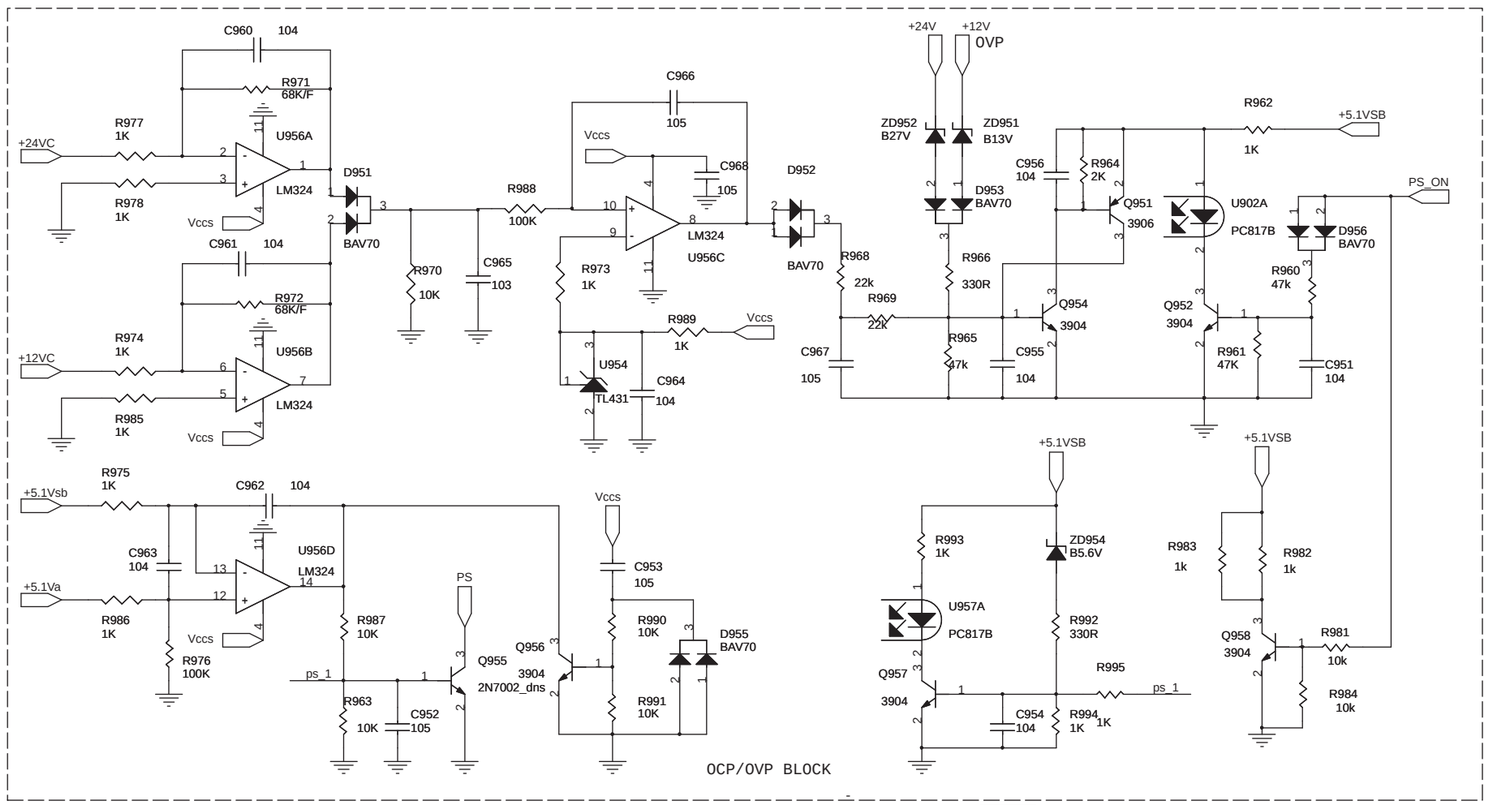
ESQUEMAS ELÉTRICOS

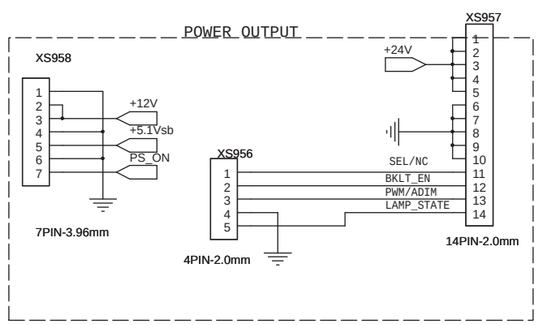
PCI Fonte - LC5551F



OUTPUT MAX	
+5.1V	4A
+12V	4A
+24V	4A







SEMP TOSHIBA

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NE: 756.514

Rev. 01 / Set. 10